July 2008

Diabetes Primary Prevention Initiative–Interventions Focus Area Case Study

Updated Findings Report

Prepared for

Ernest Moy, MD, MPH
Agency for Healthcare Research and Quality
540 Gaither Road
Rockville, MD 20850

Prepared by

Deborah Porterfield, MD, MPH
Laurie Hinnant, PhD
Suzanne Dolina, MPH
Michelle Jones-Bell, MA
RTI International
3040 Cornwallis Road
Research Triangle Park, NC 27709

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Tables

1. INTRODUCTION

In 2007, the Centers for Disease Control and Prevention (CDC) and the Agency for Healthcare Research and Quality (AHRQ) contracted with RTI International to develop a descriptive case study of the five states participating in the Diabetes Primary Prevention Initiative–Interventions Focus Area (DPPI-IFA), which began in 2005. The Interventions Focus Area (IFA), one of three DPPI focus areas, funded five state Diabetes Prevention and Control Programs (DPCPs) (California, Massachusetts, Michigan, Minnesota, and Washington) to develop, implement, and disseminate a framework for statewide primary prevention programs targeting people with prediabetes. In Phase 1 of the DPPI-IFA (September 2005–March 2006), states worked together to define the strategic questions to be answered by their work and to develop key documents, such as a charter, a logic model, and resource lists that were targeted to different sectors (e.g., health systems, businesses). In Phases 2 through 4, the programs continue to work together through regular conference calls and face-to-face meetings to refine the framework and to continue to learn from each other, but they are also implementing interventions. Presently, the five funded states are conducting a variety of interventions, including public and provider awareness initiatives; community, clinical, and worksite-based screening and lifestyle intervention programs; and policy initiatives.

The purpose of the case study was to describe the implementation of diabetes primary prevention programs in the five states, with an explicit intent to identify and disseminate lessons learned, resources, and tools to inform future efforts of CDC, additional DPCPs, and other stakeholders. Data collection for the case study consisted primarily of extensive document review and 2-day site visits with DPCPs and their partners, conducted in July through September 2007. A report from the case study was finalized in February 2008 (RTI, 2008).

The decision to update the findings of the Final Report was made by the Steering Group, which has guided the work of the case study, based on input from the state representatives. The Final Report, delivered at the end of Phase 3 of the DPPI-IFA, contained information about program activities conducted through summer 2007. Additionally, each state provided an epilogue highlighting activities conducted from summer 2007 through the end of January 2008, which was included as an appendix in the Final Report. In an effort to share what was learned from these efforts with the public health field, the Steering Group also wants to publish a manuscript that captures as much of the breadth and depth of the programs' experiences as possible. It was determined that continued data collection and a follow-up report would provide information necessary to prepare such a manuscript. As described in Appendix A, to complete this Updated Findings Report using remaining resources, RTI conducted a single interview with the DPCP prevention lead in each state and reviewed relevant documents.

This report provides updated findings across many of the sections that were present in the Final Report. This report has fewer sections because the Steering Group prioritized the evaluation questions to lower the costs of data collection by focusing the interviews. This list of prioritized evaluation questions is presented in Appendix B, and results are presented in Sections 2 though 5 and Section 8. CDC also asked RTI to help prioritize the Common Measures and help refine their use in the future. The results of an activity in which RTI engaged the programs for input on the Common Measures are included in Section 6, with details in Appendix C. Additional sections present a report on facilitators and challenges, which provides useful hints for future program development, and RTI's conclusions for this Updated Findings Report. Finally, data collection instruments are presented in Appendices D and E, and state-specific reports are presented in Appendices F through J.

2. PARTNERSHIPS

Partnerships remain at the core of the work being conducted for the Diabetes Primary Prevention Initiative–Interventions Focus Area (DPPI-IFA) within the five states. Each of the states was able to maintain many of the relationships established in previous years of the effort, indicating that several long-term relationships have been established. Within several states, partners have continued to implement the same interventions from year to year with these partners, but for others these partners have taken on new interventions and/or roles within the partnership. Partners appear to play an active role in intervention development and management. Partners are actively engaged in the decision-making process, which is also supported by DPCP staff. Table 2-1 highlights key partners within each state that have been maintained into Year 4 of funding, partner organizations that are new to DPPI-IFA, and partners that are no longer involved with IFA activities.

Several partners that had previously been involved in the implementation of screening and lifestyle change interventions discontinued their involvement once the classes were completed (e.g., Lightolier in Massachusetts, Sacramento Bee and First Northern Bank in California). However, several new partner organizations have become involved in IFA interventions (e.g., Steps programs in Minnesota, Oak Park YMCA in Michigan), thus indicating that there is an ongoing interest by community organizations and programs in these types of services. However, it is unclear whether the former organizational partners are sustaining screening efforts or whether they have ended altogether.

With some transition of partners, personal relationships still appear to play an important role in the recruitment of partners. In the case of California, the partnership with the Sutter Medical Foundation was developed primarily because a key staff person from the previous partnership with Sutter Hospital transitioned to a new position within the Sutter Medical Foundation. In Minnesota, relationships have been established with the Steps to a Healthier Minnesota program, which is also located within the Minnesota Department of Health. This relationship was then expanded to include the three additional Steps programs within the state.

In at least one state, former partners in an actual intervention continue to work together in new roles. Within Massachusetts, even though the DPCP is no longer working on implementation of prediabetes screenings and classes with Lightolier and Southcoast Hospital, these organizations are also partners within the Bristol County Workplace Health Improvement Initiative. So although formal partnerships may not be ongoing, previous efforts have established important community linkages and relationships that are helpful as the work of the DPCP evolves and expands.

Table 2-1. Partners in the DPPI-IFA, by State

State	Partners Maintained into Phase 4	New Partners Added	Partners No Longer Involved
California	Sutter Medical Foundation Sutter Health Care System		Sacramento Bee First Northern Bank
Massachusetts	Diabetes Association Incorporated	Bristol County Workplace Health Improvement Initiative	Lightolier Southcoast Hospital
Michigan	Northern Michigan Regional Diabetes Initiative WISEWOMAN ▪ State level ▪ Lenawee County Diabetes Outreach Networks ▪ DONs including TIPDON	Oak Park YMCA	Women, Infants, and Children (WIC) program
Minnesota	Institute for Clinical Systems Improvement State Steps to a Healthier Minnesota Minnesota Diabetes Steering Committee (two Action Groups)	Minnesota Diabetes Collaborative Steps to a Healthier Rochester ▪ Olmstead Medical Center ▪ Rochester Area YMCA Steps to a Healthier St. Paul ▪ Open Cities Clinic ▪ St. Paul Parks and Recreation Program Steps to a Healthier Wilmar ▪ Rice County Diabetes and Nutrition Education Center ▪ Kandioyhi YMCA	
Washington	REACH ▪ SeaMar Community Health Centers ▪ Center for Multi-Cultural Health ▪ International Community Health Services		Garfield County Hospital District

Overall, all states report that their relationships with partner organizations, whether new, ongoing, or currently inactive, have been very positive and mutually beneficial. Several states continue to report that providing funding to potential partners, even if it is a small amount, is an important incentive to recruiting and maintaining partnerships. The provision of technical assistance and other types of support is also important to maintaining these relationships.

3. INTERVENTIONS

The five states continue to implement a variety of interventions in three main domains: diabetes primary prevention and prediabetes awareness, screening and intervention, and prediabetes-related health policy. Most of the interventions conducted in Phase 3 were continued in Phase 4. In Table 3-1, new interventions are indicated in bold, and interventions that have ended are shaded. Following the table, the interventions are briefly described under the three categories outlined in the table.

Table 3-1. DPPI-IFA Intervention Type, by Funded State—Updated

		Intervention Type								
		Diabetes Primary Prevention and Prediabetes Awareness		Screening Activities and Lifestyle Interventions				Health Policy		
		Provider	Public	Worksite	Health System	Health Dept.	Other	Health System	Health Dept.	Other
CA		X		X	**X**					
MA		**X[a]**		**X**			**X**	**X[a]**		**X**
MI	WIC	X							X	
	WISEWOMAN	X				X			X	
	NMRDI	X	X		**X**			X		X
MN			X							X
WA	REACH				X		X			
	GCHD			X				X		

Note: GCHD = Garfield County Health District; NMRDI = Northern Michigan Regional Diabetes Initiative; WIC = Women, Infants, and Children; WISEWOMAN = Well-Integrated Screening and Evaluation for Women Across the Nation.

[a]Needs assessment via key informant interviews rather than an intervention.

As shown in Table 3-1, the five states continue to develop interventions across a broad spectrum of intervention types. Below we highlight the new and updated interventions, by category. More detail can be found in the state-specific Appendices (F through J).

3.1 Awareness

- **California**: As part of a screening pilot within Sutter Health Care System, a group of approximately 20 providers was recruited for an educational intervention, which took place over an evening meal.

- **Massachusetts**: MA DPCP is conducting a series of key informant interviews with primary care providers, health systems, and regional health plans (Blue Cross Blue Shield of Massachusetts and possibly United and Harvard Pilgrim). The purpose of these interviews is to learn about current screening practices and about the health

systems' or plans' willingness to conduct and pay for a comprehensive screening process. The information gained can possibly be used to effect awareness or policy change among providers and health systems.

- **Minnesota**: The Prevention Awareness Action Group (PAAG) of the Minnesota Diabetes Steering Committee collaborated with the Minnesota Diabetes Collaborative to develop a press release on prediabetes that was distributed to employees and consumers of the member organizations. The Minnesota Diabetes Program estimates that this press release reached about 80% of the population of Minnesota. Additionally, the Collaborative developed materials on family history of diabetes and diabetes risk, which will be disseminated at health fairs and other health promotion events.

3.2 Screening and Lifestyle Interventions

- **California**: The CA DPCP, in continued partnership with Sutter Medical Foundation, is developing a screening pilot for patients of the Sutter Health Care System. Approximately 20 physicians will receive an educational intervention; these providers will then screen patients for prediabetes using an algorithm developed as part of the DPPI-IFA and refer patients to a 2-hour class on diabetes awareness and prevention that Sutter Medical Foundation already has established, as well as to Sutter's weight management class, which is being tailored to DPPI needs by the Diabetes Nurse Educator and the weight management class instructor.

- **Massachusetts**: The MA DPCP and Diabetes Association Incorporated (DAI) will implement a screening and lifestyle intervention at Bristol County Community College for staff and students identified as being at risk for diabetes.

- **Michigan** (1): Update on WISEWOMAN. Screening for prediabetes is now successfully incorporated into the remaining eight sites across the state; potentially, a total of 3,523 program participants will be screened. In these health departments, only the screening and one diagnostic follow-up visit by the provider are covered. Unlike the pilot, there are no incentives (e.g., certificates for Weight Watchers, local gym memberships) and there is not standardized access to a formalized education program, although the women will qualify for the WISEWOMAN five visits for lifestyle counseling (however, these have not been adapted for prediabetes).

- **Michigan** (2): Pilot with the Ingham County WISEWOMAN Program, Oak Park YMCA, and the Carefree Medical Clinic. Both the Ingham County WISEWOMAN Program and the clinic will refer persons with prediabetes for a nutrition and physical activity program at the YMCA. Participants will be eligible for five weekly sessions, including a fitness assessment and one-on-one personal training sessions, and group classes in a program called EnhanceFitness®.

- **Michigan** (3): TIPDON pilot. TIPDON will now lead a small diabetes primary prevention pilot. Up to 225 underserved persons identified in three locations (i.e., laundromats, food pantries, and free clinics) in two counties will be screened using the American Diabetes Association (ADA) paper screening test, recommended to get a fasting blood glucose at their primary health care provider or the free clinic, and given a voucher for free prediabetes education from a certified diabetes self-management training program.

- **Minnesota**: Individuals and Communities Acting Now to Prevent Diabetes (I CAN Prevent Diabetes). In collaboration with the state and local Steps programs, a pilot multilevel intervention that includes clinical diabetes screening and use of the 16-week Diabetes Primary Prevention (DPP) curriculum was developed and fielded. Community organizations and their staff were trained on how to implement a lifestyle change program for those with prediabetes so that it can be self-sustained over time by the sponsoring organizations. Four health clinics serving the Steps communities of Wilmar, Rochester, and St. Paul were recruited by local Steps staff to participate in the pilot project. Classes were offered at two area YMCAs and one Parks and Recreation Center, also located within the Steps communities

- **Washington**: Two of the three screening sites in Seattle that have participated in the DPPI-IFA as part of the partnership with the REACH program recruited participants for a lifestyle intervention toward the end of Phase 3. The intervention consisted of eight classes modified from the 16-week DPP curriculum by a Diabetes Educator; and additional changes were made by each partner organization to tailor the 8-week series to meet the needs of their specific target population. The Center for MultiCultural Health (CMCH) and SeaMar each had six participants in the intervention. International Community Health Services (ICHS) will use the same version of the curriculum in a planned intervention for Phase 4.

3.3 Policy Interventions

- **Massachusetts**: MA DPCP has also become a partner of the Bristol County Workplace Health Improvement Initiative, a preexisting effort. The Initiative is based on the Institute for Healthcare Improvement's Breakthrough Series Collaborative and will include quarterly meetings to facilitate learning about best practices related to heart disease, diabetes, cancer, and chronic disease risk factors. This will be a guided process where employers will assess the needs of their workforce and then develop a plan based on identified priorities. As of March 2008, 13 employers have participated in the series, including Lightolier.

- **Minnesota** (1): With input from the Minnesota Diabetes Program (MDP) and the Health Policy and Systems Change Action Group of the Minnesota Diabetes Steering Committee, ICSI revised the clinical guideline *Diagnosis and Management of Type 2 Diabetes Mellitus in Adults* (ICSI, 2008a) and agreed to include prediabetes in the language of the guideline. In addition to the work on the type 2 diabetes guideline, the Steering Committee also provided input into the *Primary Prevention of Chronic Disease Risk Factors* guideline (ICSI, 2008b), which is more public health-focused than other guidelines and includes factors such as nutrition, physical activity, and tobacco use.

- **Minnesota** (2): Pediatric Algorithm for Prediabetes. As an outgrowth of their work with the Diabetes Steering Committee to develop the adult screening algorithm, a participating pediatrician and pediatric endocrinologist developed an algorithm for youth that will now be included as a part of a toolkit that goes out to pediatric providers.

Some of the novel features of this phase of funding include

- continued work with partners but in new ways (for example, California piloting a screening/treatment intervention with patients and providers in Sutter Health Care

System; Massachusetts working with Lightolier in the context of the Bristol County Workplace Health Improvement Initiative);

- partnering with YMCAs (in MI and MN);
- stronger partnering with providers to ensure clinical follow-up of screening (as in CA or MN) or conducting a needs assessment to inform how to ensure the follow-up (as in MA);
- use of clinical algorithms (by CA and MN), which may be an outgrowth of the Algorithm Workgroup of the DPPI-IFA; and
- a possible shifting away from screening in the community setting (although this is still the model in the TIPDON pilot) to screening in a clinical setting (CA, MN).

3.4 Costs of the Interventions

As was true in the first three phases, states varied in how they budgeted their funds. In terms of labor, several states spent a significant proportion of the funds on DPCP staff, whereas others did not; amounts ranged from zero (in two states) to $62,000. One state used nearly its whole budget to support its partner in conducting interventions. In one state, the pattern of funding in Phase 4 appears to have shifted away from labor and instead to paying for questions to be added to the Behavioral Risk Factor Surveillance System (BRFSS). Funding in the range of $6,000 to $90,000 was awarded to partnering organizations to implement the interventions.

States were also asked to estimate in-kind contributions for themselves and their partners that facilitated implementation of the DPPI-IFA interventions. In-kinds were described as not only resources/materials provided to the intervention but also additional DPCP staff time not funded by the DPPI-IFA (state or other CDC funding). State reports indicate in some cases a continued amount of in-kind contributions that have been leveraged by the DPPI-IFA funding but also indicate the ongoing challenge of estimating in-kinds, as this information was missing for several states. The range for non-CDC funds or other DPCP in-kinds ranged from $5,000 to $80,000 (three states reporting); in terms of partner in-kind contributions, two states reported $8,000 each (one state detailed that this was a partial estimate), and the remaining three states did not report partner in-kinds, noting that they had not yet been calculated.

4. RESULTS

4.1 Individual-Level Outcomes

As of the writing of this report (July 2008), no data were available from most of the new screening interventions in California (Sutter Health Care System) and Michigan (expanded WISEWOMAN screening and the Northern Michigan Diabetes Initiative [NMDI]/TIPDON pilot). The Michigan Diabetes Program (MDP) reports that, for the first round of the I CAN Prevent Diabetes intervention, the first instructor training trained 19 facilitators. A total of 38 participants participated in the classes across the three sites. At the time of data collection for this update, classes were just ending and no data are available on the number screened for risk status, number screened for diabetes/prediabetes, the screening tests that were used, or the outcome of the screenings at the various sites.

The states that had previous screening and lifestyle interventions with follow-up data to report (CA, MA, MI) were asked to review and re-report their data in more detail. Table 4-1 presents updated reporting of the data that supersedes the previous report. As a slight refinement from the previous report, we report Common Measures grouped into domains or categories used in other reports of diabetes screening interventions. It remained challenging to summarize the individual-level outcome results of the DPPI-IFA because (1) data were not uniformly available, (2) a variety of screening tests were used across sites, and (3) interventions included persons who were at risk for prediabetes as well as those with a diagnosis of prediabetes. In some instances, states were unable to supply data using the new tables.

4.2 Organizational and Community-Level Outcomes

Across the state Diabetes Prevention and Control Programs (DPCPs), there is continued evidence of organizational- and community-level changes as a result of the Diabetes Primary Prevention Initiative–Interventions Focus Area (DPPI-IFA). Relatively few new outcomes were mentioned in this round of interviews, likely because these types of outcomes take longer to influence. Below we highlight the new outcomes reported by states in the four categories used in the previous report.

- **Institutionalized interventions**. Minnesota reported that the Type 2 diabetes guidelines (ICSI, 2008a), which incorporate MDP input on prediabetes, have been released and will be used by providers across the state of Minnesota and in other states that use the ICSI guidelines.

- **Incorporation of prediabetes components into existing initiatives**. There is stronger evidence of this in the NMDI with the new prediabetes pilot being implemented by TIPDON.

Table 4-1. Individual Outcomes in the DPPI-IFA

	Measure	Range of Values	Notes
Reach	Number of persons in the target audience	251 (MI WISEWOMAN) to 1,600 (CA Phase 3)	
	Number reached by awareness activities	1,600 (CA Phase 3)	Not available in two states
	Number (percent) recruited for screening	46 (3%) in CA; 110 (18%) in MA; 136 (54%) in MI	For two states, this is calculated assuming the number of persons in the target audience is the denominator, rather than number reached by awareness activities
Yield	Percent of persons screened found to be at high-risk	25% (MI); 27% (MA); 83% (CA)	
	Percent of persons at high-risk found to have prediabetes	15% (CA Phase 3)	Unknown in two states (data pending in one of these)
	Percent of persons screened for risk status who are determined to have prediabetes	13% (CA Phase 3)	
Enrollment in interventions	Number enrolled in interventions	21 (MA); 38 (CA); 84 (MI)	
	Percent of those with prediabetes who enrolled		Not applicable, since in all cases the intervention began before a diagnosis of prediabetes was confirmed
	Percent of those enrolled in interventions with prediabetes		Not able to determine with information presented by CA; unknown in MA; data not yet available in MI
Intervention completion	Percent enrolled that completed the intervention	87% (CA); 95% (MA)	Not yet available for MI In MA, defined as ≥5 of 10 sessions
Outcomes of the intervention	Percent weight loss among persons enrolled in the intervention	4.3% among 14 persons (CA Phase 2) 0.1% among 33 persons (CA Phase 3) 3.7% among 14 persons (MA)	States were not always able to break down results by those who had completed the intervention vs. all enrollees and were not able to break down by whether they had prediabetes, high risk, or normal results

- **Enhanced expertise of the DPCP or partners in prediabetes**. The CA and MN DPCPs have developed and piloted screening algorithms that demonstrate an enhanced knowledge and expertise in prediabetes and screening programs. California's main partner, Sutter Medical Foundation, has evolved its role in the DPPI-IFA to now initiating prediabetes activities. Also, the enhanced expertise of the MA DPCP and its partners (Lightolier and DAI) is evident in their role in the Bristol County Workplace Health Improvement Initiative.

- **New or strengthened partnerships as a result of the DPPI-IFA**. This was reported by the CA DPCP with its partnership with Sutter Medical Foundation.

5. TOOLS USED OR DEVELOPED

The primary tools developed by states for their Diabetes Primary Prevention Initiative–Interventions Focus Area (DPPI-IFA) work since the last data collection effort included screening algorithms and class curricula. California and Minnesota both developed screening algorithms for adults, and California also developed them for children. These algorithms have been reviewed thoroughly by diabetes experts and have been finalized for use. One partner in Washington developed a flowsheet to illustrate how their diabetes screening fits into a larger health promotion effort.

Since the last data collection, three states (CA, MN, and WA) have also developed materials for lifestyle intervention classes for their target population. Massachusetts developed its own curriculum based on the Diabetes Prevention Program (DPP) during an earlier phase of DPPI work. California and Washington have used existing curricula that they tailored to meet the needs of their programs and target populations. Washington tailored its curriculum from the Diabetes Primary Prevention Project, and California is using an existing hospital weight management curriculum while considering adapting a diabetes primary prevention curriculum from the University of Pittsburgh. The curricula used in these states include training materials, flip charts, questionnaires, and other guidelines for class implementation. In addition, Washington plans to translate its curriculum from English into Chinese.

6. PRIORITIZATION OF THE COMMON MEASURES

The Centers for Disease Control and Prevention (CDC) believes that the Diabetes Primary Prevention Initiative (DPPI) Common Measures are a valuable tool to guide program/ intervention and evaluation development. Within this context, CDC is interested in learning more about which Common Measures the state programs believe are most important to include in future program guidance to states.

To help identify the most important Common Measures within each stage of implementation and among either process or program metrics for that stage, states were asked to rank order the measures from most to least important in terms of aiding program and evaluation development. Appendix C presents the summary of rankings by state programs. It is evident that states interpret the importance of some metrics similarly, with several states ranking them collectively high or low in importance. However, for the most part, the diversity of the ratings indicates some significant differences in how states view the importance of certain metrics, which may be due to the variety of interventions they are currently implementing.

7. FACILITATORS AND CHALLENGES

The five Diabetes Primary Prevention Initiative–Interventions Focus Area (DPPI-IFA) states agreed that one of the main facilitators for their DPPI-IFA work was the strong relationships they had built between the Diabetes Prevention and Control Programs (DPCPs) and their partners, as well as the relationships that were established with other key program stakeholders, such as clinic providers and Department of Health staff. These relationships helped facilitate the development and implementation of state-specific screening and intervention work. They were able to develop strong methods of communication to enhance their programs and focus the work so that it met the needs of the target audience. Other facilitators mentioned included being able to link DPPI activities to other activities in the state and working with others who were developing and implementing programs to serve the same target population.

Several challenges were noted in regard to the DPPI-IFA work. More than one state noted that timing was a challenge for them. The amount of time and effort needed to develop their program and attend to all of the tasks required for successful implementation was difficult for the number of staff on board. Relatedly, California mentioned that the level of funding to implement the intervention was an issue. Specifically, California suggested that it was challenging to complete the amount of work they had on the budget they were given. Other challenges mentioned included the challenge of promoting awareness of prediabetes and generating interest in lifestyle intervention classes. Massachusetts noted that working in new settings, such as worksites, presented challenges because public health professionals had to become accustomed to the worksite culture and had to balance asking worksites for help with this DPPI effort with not overwhelming them in the process.

8. SUSTAINABILITY

Sustainability is a key issue and concern for the states. Realizing the importance of prediabetes prevention, the states would all like to see that their efforts can continue even after Centers for Disease Control and Prevention (CDC) funding has ended; however, the ability and likelihood of the Diabetes Primary Prevention Initiative–Interventions Focus Area (DPPI-IFA) work being sustained varies by state and partner organization. California, Massachusetts, Minnesota, and Washington all believe that at least components of their programs will be sustained. The two primary methods to promote sustainability have been to institutionalize components of their program or to find ways to continue funding. In California and Washington, providers or other staff have been trained in the screening protocol so they can continue to screen the patients they see as part of their clinic practice or as part of an ongoing health promotion effort. While they have found the screening component feasible to sustain, it is less likely that the lifestyle intervention classes can be continued without additional funding from CDC or other organizations. In California, Sutter Medical Foundation has a weight management class in place that should continue so that patients identified as prediabetic can take advantage of that resource; however, the classes in Washington will not continue unless additional funding is identified. Massachusetts will sustain its efforts with the Bristol County Workplace Health Improvement Initiative by working with participating employers to pay for ongoing maintenance of the program. While Michigan is exploring ways to sustain their work, they anticipate that the program will not continue without additional funding. Minnesota has plans to sustain their work through their partnership with the YMCA and health care provider staff. They have trained them in their intervention so the program can be maintained with little funding or support from the state or CDC.

9. CONCLUSIONS

Since 2006, the Diabetes Primary Prevention Initiative–Interventions Focus Area (DPPI-IFA) has challenged state diabetes programs to develop a framework for diabetes primary prevention that has resulted in an impressive array of pilot interventions. Although the Diabetes Prevention and Control Programs (DPCPs) are still in the process of implementing their interventions, the case study was designed and carried out to provide a snapshot in time of their implementation and early outcomes and to inform planning by the Centers for Disease Control and Prevention (CDC) and future diabetes primary prevention efforts by other DPCPs.

This Updated Findings Report provides additional detail to supplement the Final Report. The major limitations of this effort are that because of resources it was not possible to repeat the extensive data collection efforts; only one interview and limited document review were conducted for each state. Also, data collection was conducted while DPCPs were still in the implementation phase of their interventions. Thus, this case study, including the Updated Findings, cannot be considered a definitive description of the work of the DPPI-IFA states. However, it does provide additional insight into the effort being undertaken by the DPPI-IFA states as they continue their work in diabetes primary prevention.

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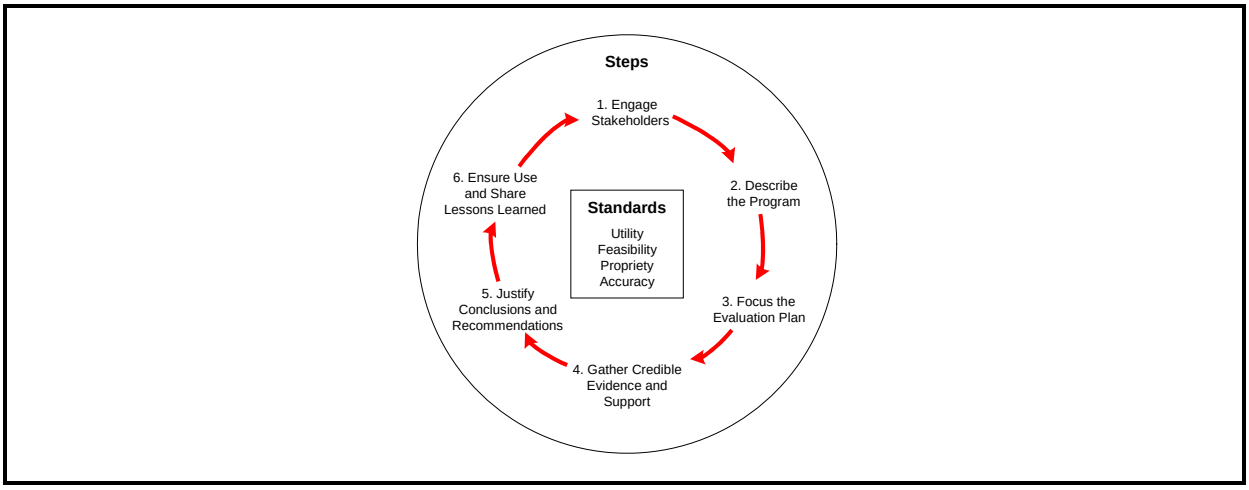
APPENDIX A:
METHODS

The decision to update the findings in the Final Report was made by the Steering Group based on input from the state representatives. The Final Report, which was delivered in February 2008, just at the end of Phase 3 of the Diabetes Primary Prevention Initiative–Interventions Focus Area (DPPI-IFA), contained information through the site visits (approximately September 2007) and epilogues contributed by each state. However, a strong priority of the group was to publish a manuscript that captures as much of the breadth and depth of programs' experiences as possible, and it was determined that continued data collection and a follow-up report would provide needed information. Limited funds were available to conduct a focused data collection; in this appendix, we outline the methods that were conducted for this Updated Findings Report. In this second round of data collection, RTI continued to follow the Centers for Disease Control and Prevention's (CDC's) "Framework for Program Evaluation in Public Health" (1999) (Figure A-1) to organize and describe its case study work.

Figure A-1. CDC's Framework for Program Evaluation—Adapted Steps for Case Study Plan Development



Source: Centers for Disease Control and Prevention (CDC). 1999. "Framework for Program Evaluation in Public Health." *Morbidity and Mortality Weekly Report* 48(RR11):1-40.

A.1 Steps 1: Engage Stakeholders

Through April 2008, the Steering Group was engaged via monthly telephone calls, during which they recommended that RTI undertake further data collection. RTI also conducted monthly technical monitoring calls with the Centers for Disease Control and Prevention (CDC) and the Agency for Healthcare Research and Quality (AHRQ) and, after April 2008, convened the Steering Group to review a draft of the Updated Findings Report and via e-

mail to review drafts of the report and manuscript. Members of the Steering Group are listed in Table A-1.

Table A-1. Membership of the DPPI-IFA Case Study Steering Group

	Organization	Role
Tara Bubniak	The Lewin Group	Technical assistance
Roger Chene, MPH, RD	California Diabetes Program	Intervention workgroup chairperson
Denice Glover	CDC/NCCDPHP/DDT	CDC consultant
Amy Herr	The Lewin Group	Technical assistance
Rita Mays, MS, RD, LN	Minnesota Department of Health	Intervention state representative
Mark Rivera, PhD	CDC/NCCDPHP/DDT	CDC consultant
Ernest Moy, MD, MPH	Agency for Healthcare Research and Quality	Task Order Officer
David Williamson, PhD	CDC/NCCDPHP/DDT	CDC consultant

Note: CDC = Centers for Disease Control and Prevention; DDT = Division of Diabetes Translation; DPPI = Diabetes Primary Prevention Initiative; IFA = Interventions Focus Area; NCCDPHP = National Center for Chronic Disease Prevention and Health Promotion

The five current DPPI-IFA state representatives, who represent critical stakeholders, were engaged in several ways. Two of the five are a part of the Steering Group and bring the needs of the others to the Group's attention. Additionally, one member from RTI worked closely with state representatives to coordinate presentations at the May 2008 Division of Diabetes Translation (DDT) meeting. At around this time, states were sent preliminary e-mails describing the pending data collection effort, and RTI was able to discuss the process with them informally at the DDT meeting.

A.2 Steps 2 and 3: Describe the Program and Focus the Case Study Plan

As described above, RTI worked closely with the Steering Group to identify stakeholder interests and to prioritize additional evaluation needs. The Steering Group discussed and agreed upon a revised list of evaluation questions that would provide greater focus to the current effort, given limited funding. In addition, the Steering Group reviewed and approved a revised Program Summary Form (PSF) and an interview protocol.

The Steering Group decided to focus on the present activities of the five Diabetes Prevention and Control Programs (DPCPs) with attention to the process of development of partners and interventions; resources needed, including in-kind contributions; sustainability of the projects; and individual and organization accomplishments. A list of the prioritized evaluation questions is presented in Appendix B.

A.3 Step 4: Gather Credible Evidence

A.3.1 Data Collection

For each state program, RTI conducted three primary forms of data collection: development and completion of a state-specific PSF; in-depth, open ended interviews; and review of program documents.

As in the first round of data collection, a PSF was developed that collected data on a variety of questions the group believed were appropriate for collection using a form (rather than an interview) and could be collected in advance of the interview to improve the data collection team's understanding of state activities, thus allowing further tailoring of the interview protocols. Before sending the PSF to the primary DPCP contact in each state, RTI staff reviewed any existing documentation on state activities and inserted information from those documents into the form to further reduce any burden on respondents. Each state DPCP then received its state form and was asked to review the information and add information as appropriate. State DPCPs then e-mailed the completed forms back to their primary RTI point of contact, along with any additional program materials available. RTI staff then reviewed the form and used it to improve their overall understanding of state activities and to tailor the interview protocols.

RTI then conducted a 1- to 1½-hour interview with a single representative from each state DPCP. Limited resources prevented additional interviews with primary or secondary partners. Each interview was conducted by two people, an interviewer and a recorder. In addition, most interviews were tape-recorded as a backup to ensure that all information was recorded accurately. The interviews consisted of a series of open-ended, semistructured questions that were tailored as appropriate.

In addition to the interviews, any additional documents that had not been obtained prior to the site visit were requested and/or collected. Essential information and attributes of these materials were abstracted and maintained in an inventory for use in later analyses.

A description of the study and copies of the interview protocol and PSF were submitted to RTI's Institutional Review Board (IRB) and were determined to be exempt from review, as was the initial case study effort.

A.3.2 Data Analysis

Because the overall case study is largely descriptive in nature, an extensive a priori coding structure was not used; rather, data were analyzed around the priority case study questions. Where appropriate and helpful, common themes were identified and used as loosely defined codes both within and across states. For the state-by-state analysis, each state was treated as an independent case and data were analyzed as such. The primary RTI

contact person for each state also served as the lead analyst for that state. The analyses included an in-depth review of a variety of materials, including the PSF completed by state DPCP staff and other program materials provided by the states. Additionally, notes and recordings from the telephone interviews were reviewed and data were abstracted and analyzed. These various pieces of data were then examined collectively to respond to the overarching case study questions developed by the Steering Group. After analyses were completed and a site summary was drafted, each case study team member independently reviewed the summary to provide input and feedback to the author.

The themes of interest for the cross-site report were developed directly from the evaluation questions. A cross-site report was developed by members of the team and thoroughly reviewed by all team members who provided comment and feedback and verified data for the states they were most familiar with.

A.3.3 Cost Estimation

RTI and the Steering Group determined that the estimates of in-kind contributions, included as part of the Final Report, were useful and would be asked again of states. RTI asked states to complete a budget table for Phase 4 that had been used to summarize budget information in the earlier report. RTI did not examine primary data such as budget sheets or grant applications, as it had for the earlier report. States were allowed to calculate in-kind contributions using whatever rates they felt were appropriate. This estimate of in-kind contributions by DPCPs and partners, combined with a summary of the budget provided by the state programs, is again included in this report.

A.4 Steps 5 and 6: Justify Conclusions and Recommendations and Ensure Use and Share Lessons Learned

In addition to this report—which was reviewed by AHRQ, CDC, the Steering Group, and state DPCPs—RTI will continue to work with AHRQ, CDC, and the Steering Group to develop a dissemination plan based on key findings from the case study. Currently, this plan includes preparing and submitting at least one manuscript to a peer-reviewed journal that will highlight the issue of diabetes primary prevention and focus on lessons learned from the work of the five funded DPCPs.

APPENDIX B:
PRIORITIZED EVALUATION QUESTIONS

Level	Prioritized Questions	Questions Not Prioritized
Structure	▪ What are the intervention designs? ▪ Are interventions consistent with best practices and available evidence?	
		▪ What types of support were most helpful to the pilot states in facilitating implementation of this program?
	▪ What have been the resources needed for planning and implementing the program? ▪ What are the states doing to institutionalize/sustain the programs?	
Process	▪ How do the programs recruit and retain partners?	
		▪ What communication strategies were used to maintain open communication between states and local partners? ▪ What are partners doing to meet the DPPI objectives? ▪ How do the programs involve partners once they are on board?
	▪ What tools have been developed or used by states? ▪ How has the use of Common Measures affected the overall initiative?	
Outcome	▪ What are the programs accomplishing? ▪ What are accomplishments at the participant level? ▪ What are the accomplishments at the community/organizational level?	

Note: DPPI = Diabetes Primary Prevention Initiative; IFA = Interventions Focus Area

APPENDIX C:
RANKINGS OF THE COMMON MEASURES

Table C-1. Common Measures for the Forming Stage

Element	Measure(s)	Rank 1 = Most Important 3 = Least Important		Comments or Additional Measures Your Program Would Suggest
Forming stage	**Program Metrics** Established goals/aims statement: What do you hope to accomplish with this intervention?	CA MA MI MN	2 1 1 2	MA comment: DPCP may have a project goal/aim that is slightly different from the partnership goals/aims… so that would be established after the organizational meetings are underway. This might include conducting a needs/assets assessment in the worksite and/or community to determine what the partnership aims will be.
	Identified, recruited, confirmed, and oriented partners	CA MA MI MN	1 2 2 1	
	Held first organizational meeting	CA MA MI MN	3 3 3 3	

Table C-2. Common Measures for the Development Stage

Element	Measure(s)	Rank (1 = Most Important, 7 = Least Important)		Comments or Additional Measures Your Program Would Suggest
Development stage	Developed links among agencies and other appropriate groups (e.g., recruited content experts to provide input)	CA	5	
		MA	3	
		MI	1	
		MN	2	
	Defined organizational structure set/roles (e.g., organizational charter established, memorandum of understanding [MOU])	CA	3	
		MA	2	
		MI	6	
		MN	4	
	Established resource sharing/budget	CA	6	
		MA	6	
		MI	7	
		MN	5	
	Developed evaluation plan; secured resources and partnerships for evaluation; created evaluation measures; assessed IRB requirements for your intervention	CA	2	
		MA	4	
		MI	4	
		MN	6	
	Developed state-specific process measures to be reported in Stages 5 and 7	CA	7	MA comment: These would be developed as part of the evaluation plan… how will you know you have accomplished goals.
		MA	5	
		MI	3	
		MN	7	
	Achieved consensus on aims among partners (e.g., MOU)	CA	1	
		MA	1	
		MI	2	
		MN	3	
	Assessed provider readiness to participate in diabetes primary prevention effort	CA	4	
		MA	7	
		MI	5	
		MN	1	

Table C-3. Common Measures for the Planning Stage

Element	Measure(s)	Rank 1 = Most Important 7 = Least Important		Comments or Additional Measures Your Program Would Suggest
Planning stage	Defined target population/region	CA	1	
		MA	1	
		MI	1	
		MN	1	
	Established strategy for raising awareness/ screening and referral	CA	4	
		MA	6	
		MI	4	
		MN	2	
	Established strategy for engaging providers	CA	5	
		MA	3	
		MI	5	
		MN	3	
	Created plan for screening high-risk persons (e.g., onsite lab tests; risk screening survey)	CA	2	
		MA	4	
		MI	2	
		MN	4	
	Created plan for improving access and care for prediabetes and newly diagnosed diabetes	CA	3	
		MA	5	
		MI	3	
		MN	5	
	Introduced Plan-Do-Study-Act (PDSA) cycle	CA	6	
		MA	7	
		MI	7	
		MN	7	
	Devised plan to address all relevant stakeholder groups	CA	7	
		MA	2	
		MI	6	
		MN	6	

Table C-4. Common Measures for the Intervention Stage

Element	Measure(s)	Rank 1 = Most Important 2 = Least Important for Program Metrics 6 = Least Important for Process Metrics		Comments or Additional Measures Your Program Would Suggest
Intervention stage	**Program Metrics**			
	Established system for raising awareness, screening, and referral	CA MA MI MN	1 1 1 1	
	Collected data for metrics (should be ongoing) (e.g., track weight and activity levels at each session)	CA MA MI MN	2 2 2 2	
	Process Metrics			
	Commenced evaluation process	CA MA MI MN	1 1 2 4	
	Collected baseline evaluation measures	CA MA MI MN	2 6 1 5	MA comment: This really is part of data collection throughout the process: so I would combine this metric with ongoing follow-up weight and glucose and rank both #3.
	Conducted awareness survey (public and health professionals)	CA MA MI MN	5 4 3 1	
	Collected data throughout intervention process on relevant metrics	CA MA MI MN	3 2 4 2	
	Percentage of intervention enrollees completing entire intervention (e.g., 80% or more of whole program)	CA MA MI MN	6 5 5 3	
	Ongoing follow-up with enrollees for regular weight measurement and glucose testing after intervention (e.g., onsite monitoring through workplace intervention; annual check-in with PCP)	CA MA MI MN	4 3 6 6	

Table C-5. Common Measures for the Progress Stage

Element	Measure(s)	Rank 1 = Most Important 3 = Least Important for Program Metrics		Comments or Additional Measures Your Program Would Suggest
Progress stage	**Program Metrics**	CA	1	
	Regular partner meetings/ conference calls with minutes	MA	1	
		MI	2	
		MN	1	
	Expand activities to all six stakeholder groups	CA	3	
		MA	3	
		MI	3	
		MN	3	
	Collected, shared, and discussed metrics	CA	2	
		MA	2	
		MI	1	
		MN	2	

Table C-6. Common Measures for the Impact Stage

Please rank Program Metrics together (1 to 2) and then complete a separate ranking for the Process Metrics (1 to 4).

Element	Measure(s)	Rank 1 = Most Important 2 = Least Important for Program Metrics 4 = Least Important for Process Metrics		Comments or Additional Measures Your Program Would Suggest
Impact stage	**Program Metrics**			
	One or more new organizations join DPPI effort	CA	1	
		MA	1	
		MI	2	
		MN	1	
	Evidence of engagement from all six stakeholder groups	CA	2	
		MA	2	
		MI	1	
		MN	2	
	Process Metrics	CA	1	
	Percentage of those screened and diagnosed with prediabetes who participated in intervention	MA	4	
		MI	2	
		MN	3	
	Average percentage weight loss among intervention participants	CA	3	
		MA	2	
		MI	3	
		MN	1	
	Percentage of patients reporting at last visit at least 150 minutes of physical activity per week	CA	2	
		MA	3	
		MI	4	
		MN	2	
	Completed evaluation process	CA	4	
		MA	1	
		MI	1	
		MN	4	

Table C-7. Common Measures for the Innovation Stage

Element	Measure(s)	Rank 1 = Most Important 7 = Least Important		Comments or Additional Measures Your Program Would Suggest
Innovation stage	**Program and Process Metrics** Captured key state-specific metrics	CA	1	
		MA	2	
		MI	3	
		MN	4	
	Designed one or more intervention tools for any of the six stakeholder groups	CA	3	
		MA	5	
		MI	2	
		MN	5	
	Observed/facilitated expansion of diabetes primary prevention processes to a new population or region	CA	2	
		MA	4	
		MI	1	
		MN	2	
	Observed/facilitated an institutional or community change or a policy supporting diabetes primary prevention in any of the six stakeholder groups	CA	4	
		MA	1	
		MI	4	
		MN	1	
	Measured rate of conversion from prediabetes to diabetes in the intervention population	CA	6	
		MA	3	
		MI	5	
		MN	6	
	Developed and piloted a “business case” metric for diabetes prevention	CA	5	
		MA	6	
		MI	6	
		MN	3	
	Used patient activation measures	CA	7	MA comment: Don’t think that we would use this tool.
		MA	7	
		MI	7	
		MN	N/A	

APPENDIX D:
PROGRAM SUMMARY FORM

DPPI4 Case Study
DPCP Program Summary Form v 4-22-08

State Name _____

Name of Program _____

Program Contact Information:

Name: _____
Title/Role: _____
Organization: _____
% Time on Project: _____
Address: _____
_____
Phone Number: _____
Fax Number: _____
E-Mail: _____

D.1 State Program Grant Overview

1. Please complete the following table(s) for each of your major DPPI4 interventions. Copy and paste the table and complete for each.

The following tables summarize the primary activities that were discussed during the summer 2007 site visit, and included in the summary report you reviewed. If you have any updates or changes to what we have included below, please make the necessary changes/additions. If not applicable, please mark N/A.

Name/Title of Intervention	
Dates of intervention implementation (beginning and end dates; if ongoing, please indicate that).	
Key partners that have been added since the site visit, and whom are not included in the summary report. Please provide all information for each additional partner you are including.	Additional Partner Organization 1: Key contact person and their role at organization: Contract amount ($) awarded from DPCP if applicable. If no funding is provided to this partner, please write $0: Description of at-risk population this organization serves: Role in intervention:
Has the target population for this intervention changed? If so, how?	
Why was this population or group selected?	
Any new strategies used to recruit new participants in this intervention (if applicable)?	
Additional outcomes or successes achieved for this intervention since the site visit.	
Additional challenges faced during implementation of the intervention.	
Additional key lessons learned from both development and implementation of the intervention.	
Any additional updates about this intervention.	

2. **NEW** Intervention Focus Area Interventions

Please complete the table(s) below for any NEW activities that your state has added since the summery 2007 site visit. These activities should NOT have been included in the Summary Report already developed.

Name/Title of Intervention	
Date intervention began implementation	
Goals/objectives of the intervention	1.
	2.
	3.
	Please add additional goals/objectives of the intervention, if necessary
Key partners in the intervention and role in implementation	Partner Organization 1:
	Key contact person and their role at organization:
	Contract amount ($) awarded from DPCP, if applicable. If no funding is provided to this partner, please write $0:
	Description of at-risk population this organization serves:
	Role in intervention:
	Partner Organization 2:
	Key contact person and their role at organization:
	Contract amount ($) awarded from DPCP, if applicable. If no funding is provided to this partner, please write $0:
	Description of at-risk population this organization serves:
	Role in intervention:

Name/Title of Intervention	
	Partner Organization 3: Key contact person and their role at organization: Contract amount ($) awarded from DPCP, if applicable. If no funding is provided to this partner, please write $0: Description of at-risk population this organization serves: Role in intervention: Please add additional partners if necessary.
Description of population or group this intervention is aimed at	
Why was this population or group selected?	
What strategies have been used to recruit participants in this intervention? (if applicable)	
Brief description of the intervention	
Outcomes or successes achieved to date for this intervention.	
Challenges faced during development of the intervention	
Challenges faced during implementation of the intervention	
Key lessons learned from both development and implementation of the intervention	
Other information you think it would be helpful for us to know about this intervention	

D.2 Program Environment and Resources

D.2.1 Organizational Structure

Please describe any changes in staffing at the DPCP related to the DPPI4 Intervention Focus Area implementation?

Name of NEW Staffperson(s)	Position	Roles/Functions	% FTE Devoted to this Project

a. What is the funding received from the DDT for each Year of the program?

Fiscal Year	Received
Year 4 (2008–2009)	*$*

b. The exhibit below is from the summary report previously developed. Please update this table as appropriate with the new funds received from CDC and other sources in Year 04. If there are edits to the Year 03 figures, which were not available at the time of the site visit last summer, please feel free to update those numbers. If you have any questions about how to complete this table, please let us know and we are happy to help you.

Exhibit D-1. DPPI-IFA Interventions Budget

Phase	Total	Staff	DPCP Travel	Supplies/ Other	Funds to Partner/ Cost of Intervention	Notes
Phase 1 (05–06)						
CDC funds						
DPCP funds/in-kinds						
Partner in-kinds						
Phase 2 (06–07)						
CDC funds						
DPCP funds/in-kinds						
Partner in-kinds						
Phase 3 (07–08)						
CDC funds						
DPCP funds/in-kinds						
Partner in-kinds						
Phase 4 (08–09)						
CDC funds						
DCPC funds/in-kinds						
Partner in-kinds						

Note: CDC = Centers for Disease Control and Prevention; DPCP = Diabetes Prevention and Control Program; HD = Health Department; NMRDI = Northern Michigan Regional Diabetes Initiative; TIPDON = Northern Michigan Diabetes Outreach Network; WIC = Women, Infants, and Children; WISEWOMAN = Well–Integrated Screening and Evaluation for Women Across the Nation

[a]Individual items may not sum to the total listed because intervention funds to partners may have included carryover funds from the prior year.

D.3 Partnerships

1. If there are **additional new** key partners that are not described in Section A above, please provide, their information below. **Do not include partners already listed in Section A.**

New Key Partnerships

1) Name of organization:

Primary contact person and role at organization (e.g., nurse, HR representative):

Role in intervention:

Description of at-risk population this organization serves:

2) Name of organization:

Primary contact person and role at organization (e.g., nurse, HR representative):

Role in intervention:

Description of at-risk population this organization serves:

Please feel free to add additional key partners as necessary

D.4 Intervention Design—for NEW Interventions Not Already Included in the Summary Report

1. If you have included additional diabetes screening activities as a part of your state's DPPI4 efforts since Summer 2007, please provide any new or modified algorithms/protocols your intervention has used for screening persons for prediabetes.
   a. How were these algorithms/protocols selected/developed?
   b. What evidence base, if any was used in their development?

   You may attach other documents you may have which describe this information if that is easier.

2. Where are persons with prediabetes or diabetes referred to for clinical care? How is follow up ensured? Please be as specific as possible.

3. Where are persons with prediabetes referred to for a physical activity/ nutrition intervention? Please provide details of the intervention or program they are referred to (attach description). What is the evidence-base for this intervention?

D.5 Common Measures and Data Sources Added since Summer 2007 Site Visits

1. Besides those you have already shared, are there any additional data sources for your common measures, in particular the measures that detail the individual participant level information?

2. Besides those you have already shared, are there any additional data/measures are you collecting, in addition to the DPPI4 Common Measures that were added since the Summer 2007 site visits?

D.6 Outcomes

1. For those with relevant lifestyle change interventions, please complete the following table to help us understand the work that you have done. Please complete this table, aggregating/summing the numbers across all of the interventions you have completed. If you have any questions about how to complete the table please let us know.

Intervention Phase	Measure	Value Reported Through September 2007	Updated Values	Notes/Definitions
Screening	Number of participants in the target audience			
	Number who were reached by awareness activities			
	Number recruited for screening			What screening test was used?
	Number at high risk			
	Number who followed up for OGTT or FBG (diagnostic visit)			
	Number for whom results are available			
	Number with prediabetes			
	Number with diabetes			
	Number with normal results			
Pre-DM intervention	**Total number enrolled in intervention**			
	Number at high risk			What criteria was used to determine risk?
	Number with prediabetes			
	Number with diabetes			
	Number with normal results			
	Number with unknown status			
	Total number that completed intervention			
	Number at high risk			
	Number with prediabetes			
	Number with diabetes			
	Number with normal results			
	Number with unknown status			

(continued)

Intervention Phase	Measure	Value Reported Through September 2007	Updated Values	Notes/Definitions
Outcome data	**Average percentage weight loss among persons who completed the intervention:**			
	among high risk			
	among prediabetes			
	among diabetes			
	among normal			
	among unknown status			
	Percentage reporting at least 150 minutes of physical activity among persons that completed the intervention			
	among high risk			
	among prediabetes			
	among diabetes			
	among normal			
	among unknown status			
Clinical follow-up for DM cases	Number of newly diagnosed persons with DM referred to primary care			
	Number referred who contacted primary care			

D.7 Additional Information

If there is any additional information about your efforts since the Summer 2007 Site Visit and the development of the Summary Report, please feel free to provide it below.

D.8 Prioritization of DPPI Common Measures

CDC believes that the DPPI Common Measures are a valuable tool to guide both program/intervention and evaluation development. Within this context, they are interested in learning more about which common measures the state programs believe are the most important ones to include in future program guidance to states.

To help identify the most important Common Measures ***within each stage of implementation and among either process or program metrics for that stage***, we would like to ask you to rank order them from most to least importance (again, importance in terms of aiding program and evaluation development). The column to the right of each measure is provided so that you may include any comments or thoughts on a measure, and/or include additional measures that your program utilized and feel are of importance, but were not included on the original set of DPPI Common Measures.

Please rank order the measures for the Forming Stage from most to least importance.

Element	Measure(s)	Rank 1 = Most Important 3 = Least Important	Comments or Additional Measures Your Program would Suggest
Forming stage	**Program Metrics**		
	Established goals/aims statement: What do you hope to accomplish with this intervention?		
	Identified, recruited, confirmed, and oriented partners		
	Held first organizational meeting		

Next please rank order the measures for the Development Stage.

Element	Measure(s)	Rank 1 = Most Important 7 = Least Important	Comments or Additional Measures Your Program would Suggest
Development stage	Developed links among agencies and other appropriate groups (e.g., recruited content experts to provide input)		
	Defined organizational structure set/roles (e.g., organizational charter established, memorandum of understanding [MOU], etc.)		
	Established resource sharing/budget		
	Developed evaluation plan: Secured resources and partnerships for evaluation; created evaluation measures; assessed IRB requirements for your intervention		
	Developed state-specific process measures to be reported in Stages 5 and 7		
	Achieved consensus on aims among partners (e.g., MOU)		
	Assessed provider readiness to participate in diabetes primary prevention effort		

Next please rank order the measures for the Planning Stage.

Element	Measure(s)	Rank 1 = Most Important 7 = Least Important	Comments or Additional Measures Your Program would Suggest
Planning Stage	Defined target population/region		
	Established strategy for raising awareness/screening and referral		
	Established strategy for engaging providers		
	Created plan for screening high-risk persons (e.g., onsite lab tests; risk screening survey		
	Created plan for improving access and care for prediabetes and newly diagnosed diabetes		
	Introduced Plan-Do-Study-Act (PDSA) cycle		
	Devised plan to address all relevant stakeholder groups		

Next please rank order the measures for the Intervention Stage. Please rank Program Metrics together (1 to 2) and then complete a separate ranking for the Process Metrics (1 to 6).

Element	Measure(s)	Rank 1 = Most Important 2 = Least Important for Program Metrics 6 = Least Important for Process Metrics	Comments or Additional Measures Your Program would Suggest
Intervention stage	**Program Metrics**		
	Established system for raising awareness, screening, and referral		
	Collected data for metrics (should be ongoing) (e.g., track weight and activity levels at each session)		
	Process Metrics		
	Commenced evaluation process		
	Collected baseline evaluation measures		
	Conducted awareness survey (public and health professionals)		
	Collected data throughout intervention process on relevant metrics		
	% of intervention enrollees completing entire intervention (e.g., 80% or more of whole program)		
	Ongoing follow-up with enrollees for regular weight measurement and glucose testing after intervention (e.g., onsite monitoring through workplace intervention; annual check-in with PCP)		

Next please rank order the measures for the Progress Stage.

Element	Measure(s)	Rank 1 = Most Important 3 = Least Important for Program Metrics	Comments or Additional Measures Your Program would Suggest
Progress stage	**Program Metrics**		
	Regular partner meetings/ conference calls with minutes		
	Expand activities to all six stakeholder groups		
	Collected, shared, and discussed metrics		

Next please rank order the measures for the Impact Stage. Please rank Program Metrics together (1 to 2) and then complete a separate ranking for the Process Metrics (1 to 4).

Element	Measure(s)	Rank 1 = Most Important 2 = Least Important for Program Metrics 4 = Least Important for Process Metrics	Comments or Additional Measures Your Program would Suggest
Impact stage	**Program Metrics**		
	One or more new organizations join DPPI4 effort		
	Evidence of engagement from all six stakeholder groups		
	Process Metrics		
	% of those screened and diagnosed with prediabetes who participated in intervention		
	Average % weight loss among intervention participants		
	% of patients reporting at last visit at least 150 minutes of physical activity per week		
	Completed evaluation process		

Finally, please rank order the measures for the Innovation Stage.

Element	Measure(s)	Rank 1 = Most Important 7 = Least Important	Comments or Additional Measures Your Program would Suggest
Innovation stage	**Program and Process Metrics**		
	Captured key state-specific metrics, plus		
	Designed one or more intervention tools for any of the six stakeholder groups		
	Observed/facilitated expansion of diabetes primary prevention processes to a new population or region		
	Observed/facilitated an institutional or community change or a policy supporting diabetes primary prevention in any of the six stakeholder groups		
	Measured rate of conversion from prediabetes to diabetes in the intervention population		
	Developed and piloted a "business case" metric for diabetes prevention		
	Utilized patient activation measures (PAM)		

APPENDIX E:
INTERVIEW PROTOCOL

State Staff Protocol
Draft 4-09-08

Note: This is a draft protocol which will be asked of the state Diabetes Prevention and Control Programs (DPCPs) staff.

E.1 Overview

- We are from RTI-not for profit research organization with our main office in NC.
- RTI has been contracted by the Agency for Healthcare Research and Quality (AHRQ) and the Centers for Disease Control and Prevention (CDC) to conduct a case study of interventions component of the DPPI Initiative being implemented in five states.
- The purpose of this interview is to better understand how your interventions and work for DPPI4 has changed since our site visit this past summer and the development of our report this winter.
- We will be speaking with the state DPPI4 lead in each of the five DPPI4 states.
- The purpose of this discussion is to obtain some more detailed information on the changes to the intervention design, how work with partners has changed, whether there are any new partners on the DPPI4 team, and an update on what your program is accomplishing.
- We expect this discussion to last about 60 minutes.
- There are no right or wrong answers. Participation is completely voluntary and you may stop at anytime.
- We would like to ask your permission to record our discussion. This is only for note-taking purposes, so that we don't miss anything that is said.
  - If want us to turn off the recorder, just let us know
  - Tapes will be destroyed after we're finished
- Your individual comments will not be shared with anyone outside of RTI's project team. RTI will write a report based on the findings; however, your name will not be attached to the report. Your responses will remain strictly confidential.

Do you have any questions before we begin?

E.2 Introduction

I'd like to start by asking some background questions about your organization's involvement with the initiative.

1. First, can you start off by telling us whether your role is with this initiative has changed since we last spoke?
    a. Is your amount of time spent on the IFA less than, about the same or more than you reported previously?
    b. If it has changed substantially then how and why?

E.3 Intervention Development

I'd like to start by learning more about updates to the intervention(s) we discussed during our site visit.

2. We know quite a bit about the work you have done during the first few years of funding, but could you tell us about any significant changes made to the interventions that you discussed with us last summer, and were discussed in the report already developed? We will talk about any new interventions in just a minute.
    a. Any new partners?
    b. Any changes to the interventions?

E.4 Intervention(s) Implementation

Now I would like to talk about new interventions that were developed and implemented since the time of our site visit and those discussed in the report developed this past winter.

3. Could you please give a brief overview of any new intervention(s) DPCP is involved in?
    a. Why was the target population selected for the intervention?
    b. How did you increase awareness of prediabetes in the target population
    c. How did you reached out to recruit participants for your intervention.
4. What factors were involved in DPCP deciding which interventions to undertake?

Additional screening questions for MN (the only state we know of with a new screening intervention).

5. Screening and referral protocols
    a. What algorithms are you using for screening?
        - Are these evidence-based?
        - If so, what body of evidence do they come from?
        - If not, how were they developed?
    b. Explain to me what happens once a person is diagnosed with either prediabetes or diabetes? (Probe: What would be the next steps for this patient?)

- What types of clinical sites are available for patients diagnosed with prediabetes and diabetes? Have any patients not been able to obtain primary care? If so, why?
- What types of treatment/intervention/program sites are available for patients with prediabetes? Have any patients with prediabetes not been able to obtain the assistance?
- What, if any, other additional needs are there for people with diabetes and prediabetes in terms of referral and treatment?

E.5 Partnerships

I'd like to talk now about any NEW partnerships that you may have formed since our last interview with the other community partners in this effort. For the following questions, please consider only new partners that you have worked with since our last interview.

6. Have you begun working with any new partners since our last interview? If yes, who are the new partners?

   [If yes, proceed to question 13. If no, skip to question 10.]

7. How did DPCP decide to work with these partners on this effort?
   a. How were partners identified?
8. In what ways were the partners involved in the decision making process during the development of the new intervention?

The next questions are about ALL of your partners

9. How have DPCP's relationships with its partners changed since becoming involved in this effort? Probe on:
   a. Number or type of partners
   b. Trust in or credibility of DPCP
   c. New networks or coalitions
10. Are you continuing to fund the partners you were working with in Phase 3?
    a. Is their involvement with DPPI4 contingent on receiving funding from DPCP?
    b. If no active interventions: are you still communicating with your previous partners? What potential is there for collaboration in the future?
11. What challenges has DPCP faced in retaining partners?
    a. What do you think have been the most successful strategies for retaining partners?

E.6 Outcomes

12. Briefly, what would you say your organization's goals and objectives were in becoming involved in the new intervention(s)?
13. To what extent has the program accomplished these goals and objectives?

14. What additional successes and accomplishments have resulted from your involvement in this effort?
    a. Successes at the individual and organizational level.

E.7 Facilitators and Challenges

I'd like to talk now about the facilitators and challenges you have encountered as you implemented your intervention. We are looking in particular for new information since our site visit in 2007.

15. Are there new or additional key factors or elements that have helped facilitate the implementation of your intervention(s)? (e.g., funding, committed advocate, characteristics of environment that made implementing the intervention easier or with greater success)

16. What new or additional challenges or barriers has DPCP faced in implementing intervention(s)?
    a. How have these challenges been addressed?
    b. Are there any that you have not been able to overcome?

17. Are there any tools or resources you found particularly helpful during implementation of your intervention(s)?

E.8 Sustainability

18. Is DPCP looking to sustain/maintain your intervention efforts in the future?
    a. Why or why not?
    b. What, if anything, is being done to help ensure that this program will continue once the current funding ends?

19. How feasible is sustaining these efforts?
    a. What would you need in order to sustain them? (Probe beyond funding)
    b. Do you have any examples of organizations that have been able to sustain DPPI efforts without funding from DPCP?

E.9 Lessons Learned

I would now like to get your thoughts on lessons learned from your experience with the new interventions you have worked on since our last interview.

20. If you were talking to someone else trying to implement a program like this, what advice would you give them?
    a. Critical elements

21. Is there anything else we should know about your efforts and recommendations for future work?

E.10 Conclusion

Thank you for your willingness to help us tell the story of this important work. We greatly appreciate your time.

APPENDIX F:
SITE-SPECIFIC SUMMARY: CALIFORNIA

F.1 Introduction

For Phase 4 of the Diabetes Primary Prevention Initiative–Interventions Focus Area (DPPI-IFA) interventions, the California Diabetes Prevention and Control Program (DPCP) is working with a new partner organization to focus their efforts on developing a system to identify patients with prediabetes in the health care setting and developing subsequent awareness and treatment classes. This effort will pilot test the algorithm developed for screening and the awareness and treatment classes available through the health care setting.

F.2 Context

There were no staffing changes in the CA DPCP from Phase 3 to Phase 4.

F.3 Partnerships

As California transitioned from Phase 3 interventions to Phase 4 interventions, the partnerships established with the Sutter Medical Center for intervention implementation with Sacramento Bee, Sutter Hospital, and First Northern ended and new work began with the Sutter Medical Foundation. A partnership was established with the Sutter Medical Foundation primarily because one of the key program staff from earlier DPPI work, the Diabetes Nurse Educator, became employed by the Foundation, and she brought her Phase 3 DPPI-IFA work with her. As she began her work there, she spoke with her supervisor and other providers about continuing her work with DPPI into a new phase. Her supervisor expressed interest in starting diabetes primary prevention efforts through the Sutter Medical Foundation; thus, the Diabetes Nurse Educator and the Intervention Lead began exploring options for introducing diabetes prevention into a medical setting. They developed a basic outline of the type of work they would like to do in Phase 4 with the Foundation and brought their proposal to the Diabetes Nurse Educator's supervisor and the Physician's Committee to assess the level of interest in participating. With the Foundation's approval, they developed the Phase 4 intervention. As in previous phases of DPPI interventions, the Diabetes Nurse Educator took the lead in day-to-day intervention implementation with oversight and guidance from the Intervention Lead.

Overall, the relationship between CA DPCP and Sutter Medical Foundation is very positive. Although they have worked together in the past, this was the first major project in partnership and strong relationships have been built. DPCP reported that Sutter now has a greater understanding of the work that DPCP does, which has led to greater trust.

F.4 Interventions

All work from Phase 3 of the CA DPPI ended in December 2007. For Phase 4, DPCP decided to focus its efforts on conducting diabetes primary prevention in the health care setting. Although the other states focused more on community settings, the original purpose of the DPPI work did not preclude identification of prediabetes in health care settings, and given the existing relationship with staff at the Sutter Medical Foundation, DPCP felt this was a model it would like to explore.

For Phase 4 of DPPI, the CA DPCP aims to look at how to identify adults with prediabetes in Sutter Health Care System and provide useful awareness and lifestyle intervention classes for patients with prediabetes. The overall goals of the Phase 4 intervention are to

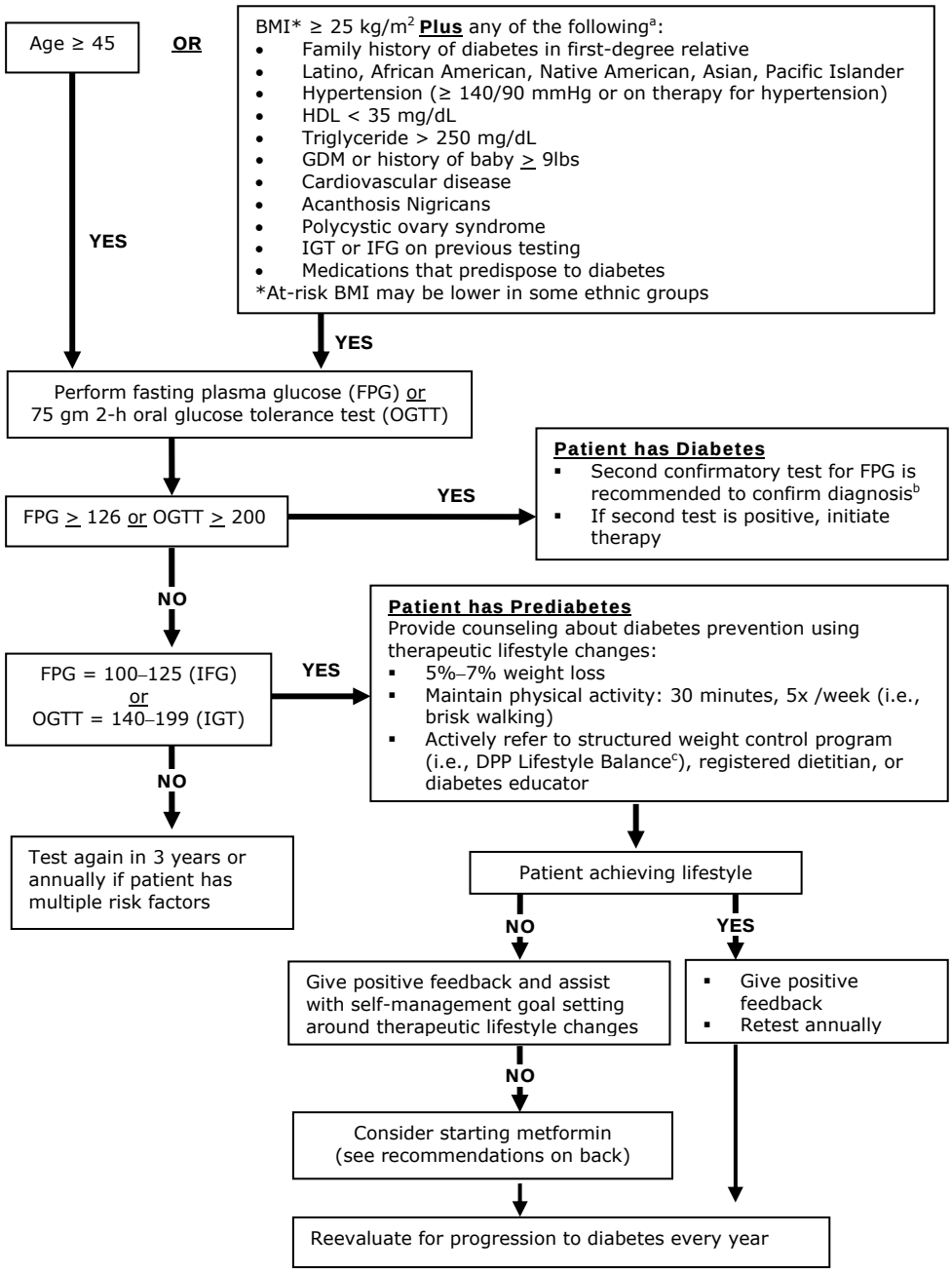
1. pilot test a prediabetes identification and treatment algorithm with Sutter Hospital providers and
2. obtain feedback on the content and usability from Sutter health care providers.

Currently, CA DPCP and the Sutter Medical Foundation are in the intervention development phase. This involves finalizing the screening algorithm and educating providers about the intervention. The screening algorithm (Figure F-1) was developed by the CA DPCP and the DPPI-IFA workgroup, with feedback from experts and providers, and is based primarily on recommendations of the American Diabetes Association (ADA) (Robert Chene, e-mail to author, June 24, 2008). Provider education is primarily being provided through an educational event being held over dinner to discuss the DPPI-IFA. During this dinner, DPCP will discuss prediabetes as a health issue, describe the algorithm that has been developed for screening, and outline resources for referral. Additional educational opportunities will come from smaller face-to-face meetings in provider offices. Overall, the aim is to reach roughly 20 providers to participate in the intervention pilot testing.

Once implemented, patients will be identified by their providers as having prediabetes following the specific algorithm developed by the CA DPCP. After being identified as prediabetic, patients will be referred to a one-session (2-hour) class on diabetes awareness and prevention that Sutter Medical Foundation already has established. At the conclusion of that class, patients will be referred to Sutter's weight management class, which is being tailored to DPPI needs by the Diabetes Nurse Educator and the weight management class instructor. The class will cost $25 to $30 per person. The weight management class is expected to be a 10- to 12-week series.

This intervention involves pilot testing the algorithm and the classes at Sutter. The CA DPCP hopes to receive feedback from the providers and participants to make the changes necessary for additional dissemination.

Figure F-1. Algorithm for Prediabetes Identification and Intervention



Note: Reproduced from an algorithm that was prepared by the Diabetes Primary Prevention Initiative based on American Diabetes Association (2008) Clinical Practice Recommendations.

[a] American Diabetes Association (Position Statement). Standards of medical care in diabetes. *Diabetes Care* 31 (Supplement 1): S12-S54, 2008.

[b] Diabetes Prevention Program Research Group. The Diabetes Prevention Program: Description of lifestyle intervention. *Diabetes Care* 25: 2165-2171, 2002.

[b] Knowler WC, Barrett-Connor E, Fowler SE, Hamman RF, Lachin JM, Walker EA & Nathan DM. Reduction in the incidence of type 2 diabetes with lifestyle intervention or metformin. *New England Journal of Medicine* 346: 393-403, 2002.

F.5 Costs of the Interventions

Table F-1 presents the costs of the interventions as reported by the CA DPCP.

Table F-1. DPPI-IFA Interventions Budget: California

Phase	Total	Staff	DPCP Travel	Supplies/ Other	Funds to Partner/ Cost of Intervention	Notes
Phase 1 (05–06)						
CDC funds	$179,404	$29,717	$46,315	$97,083*	$0	*Indirect costs($13,289), Other ($2,000), Consultant ($79,583)
DPCP funds/ in-kinds	$0	$0	$0	$0		
Partner in-kinds				$0	$0	
Phase 2 (06–07)						
CDC funds	$179,404	$94,088	$63,770	$21,546*	$20,000**	*Indirect costs ($13,289), other ($1,010), equipment/software/ supplies ($7,247), **$20,000 carried over from Phase 2
DPCP funds/ in-kinds	$0	$0	$0	$0		
Partner in-kinds	$5,000			$5,000	$0	Sutter provided notebooks and pedometers
Phase 3 (07–08)						
CDC funds	$179,404	$43,001	$58,466	$14,777*	$15,000	*Indirect costs ($13,289), other ($1,688)
DPCP funds/ in-kinds	$0	$0	$0	$0	$0	
Partner in-kinds	>$4,000			>$4,000	$0	
Phase 4 (08–09)						
CDC funds	$141,088		$10,500	$115,588*	$15,000	*Costs for Surveillance FA and BRFSS
DPCP funds/in-kinds	$0	$0	$0	$0	$0	
Partner in-kinds	$4,000	$2,000	$0	$2,000	$0	Medical scale Copies/printing Calorie King books

Note: CDC = Centers for Disease Control and Prevention; DPCP = Diabetes Prevention and Control Program; HD = Health Department; NMRDI = Northern Michigan Regional Diabetes Initiative; TIPDON = Northern Michigan Diabetes Outreach Network; WIC = Women, Infants, and Children; WISEWOMAN = Well–Integrated Screening and Evaluation for Women Across the Nation

F.6 Results

Table F-2 provides an overview of results from California's work in prediabetes screening and interventions. Phase 3 results are provided in a slightly different format than in the Final Report. The table includes outcomes data as well as clinical follow-up data for diabetes management cases.

No individual-level results are available for Phase 4 at this time; however, DPCP feels that involvement in this intervention will lead to some organizational-level benefits. Establishing a strong relationship with the Sutter Medical Foundation may open the door for additional partnership opportunities in the future. In addition, in the process of developing and implementing this intervention, DPCP is learning a great deal about the usability of the algorithm and the challenges and facilitators of conducting prediabetes prevention in the health care system. They anticipate future opportunities in diabetes prevention, and the current experience and relationships will help them be well-positioned when funding opportunities are made available in the future.

F.7 Tools Used or Developed

The primary tool to come out of the Phase 4 work is the screening algorithm. The algorithm was developed by the CA DPCP drawing upon ADA and Diabetes Primary Prevention (DPP) resources for guidance. The modified Sutter weight management curricula will also be a resource for future use. DPCP and the Sutter Medical Foundation have also been looking at a modified DPP curriculum from the University of Pittsburgh and may consider using it or adapting it for work with prediabetic patients.

F.8 Facilitators and Challenges

The primary facilitator for Phase 4 is the relationship between the CA DPCP and Sutter Medical Foundation. They two organizations work well together and have established strong methods of communication. The CA DPCP feels that having a strong leader in the Diabetes Nurse Educator at the Sutter Medical Foundation has helped both the partnership and the intervention implementation tremendously.

Adequate funding to implement the intervention remains a challenge during Phase 4. The interventions are getting to be more in-depth, and the CA DPCP is finding it hard to provide enough funding to cover costs and make the partnership beneficial for Sutter. The funding has been inadequate to support participation in all aspects of the project by the Diabetes Nurse Educator. As a result, she has donated in-kind hours to participate in the intervention development. The CA DPCP anticipates that the other main challenge will likely be in promoting awareness of diabetes and the importance of action. It may be hard to keep patients motivated and engaged to address their prediabetes, and it is unclear what sort of demand there will be for the classes.

Table F-2. Phase 3 Results: California

Intervention Phase	Measure	Value Reported Through September 2007	Updated Values	Notes/Definitions
Screening	Number of participants in the target audience	1,600		
	Number who were reached by awareness activities	1,600		All had letters, posters at site 100 attended two brown bag lunch programs (40–50 each time)
	Number recruited for screening	46		
	Number at high risk	38		
	Number who followed up for OGTT or FBG (diagnostic visit)	40		Includes two persons not at high risk
	Number for whom results are available	40		
	Number with prediabetes	6		
	Number with diabetes	0		
	Number with normal results	34		
Pre-DM intervention	**Total number enrolled in intervention**	38		
	Number at high risk	28		
	Number with prediabetes	6		
	Number with diabetes	0		
	Number with normal results	32		
	Number with unknown status			
	Total number that completed intervention	33		
	Number at high risk	26		
	Number with prediabetes	4?		
	Number with diabetes	0		
	Number with normal results	29		
	Number with unknown status			
Outcome data	**Average percentage weight loss among persons who completed the intervention:**	0.1%		For group overall Those completing program
	Among high risk			Information unavailable
	Among prediabetes			
	Among diabetes			
	Among normal			
	Among unknown status			

(continued)

Table F-2. Phase 3 Results: California (continued)

Intervention Phase	Measure	Value Reported Through September 2007	Updated Values	Notes/Definitions
	Percentage reporting at least 150 minutes of physical activity among persons that completed the intervention	42.4%		For group overall Those completing program
	Among high risk			Information unavailable
	Among prediabetes			
	Among diabetes			
	Among normal			
	Among unknown status			
Clinical follow-up for DM cases	Number of newly diagnosed persons with DM referred to primary care	0		
	Number referred who contacted primary care	0		

Note: DM = diabetes mellitus; FBG = fasting blood glucose; OGTT = oral glucose tolerance test

F.9 Sustainability

The work being done through Phase 4 has the potential to be very sustainable. Once providers are trained in the algorithm and are aware of the existing resources for treatment, they should be able to identify, counsel, and refer patients with prediabetes to appropriate services within the health care setting. Both the diabetes awareness class and the weight management classes are already in place through the Sutter Medical Foundation so they will continue even when DPPI funding is gone.

The Sutter Medical Foundation has expressed interest in having this work continue and the hope is that they will continue to encourage providers to identify prediabetic patients and urge them to take advantage of the classes in place. Sustainability of the Phase 4 intervention will depend on organizational support from Sutter to educate and encourage providers.

APPENDIX G:
SITE-SPECIFIC SUMMARY: MASSACHUSETTS

G.1 Introduction

For Phase 4 of the Diabetes Primary Prevention Initiative–Interventions Focus Area (DPPI-IFA), Massachusetts has continued to build upon and expand its work with worksite health promotion activities. Massachusetts Diabetes Prevention and Control Program (MA DPCP) staff are working with their core partner from Phase 3, Diabetes Association Inc. (DAI), to conduct key informant interviews with providers, health systems, and insurance companies to learn more about improving screening and diagnosis of patients identified as at risk. This information and other lessons learned from Phase 3 will be applied to a new screening and lifestyle change program scheduled to begin in fall 2008 at a community college in southeastern Massachusetts.

MA DPCP staff have also joined the Bristol County Workplace Health Improvement Initiative, also located in southeastern Massachusetts. This work will focus on the development and implementation of a countywide effort to engage and support worksites in identifying workforce health issues. It will also provide training, materials, and support to help these worksites identify existing community resources and, if necessary, develop new interventions and policies to improve the health of employees.

G.2 Context

There were no staffing changes in MA DPCP as they moved from Phase 3 to Phase 4. The percentage of time that the Health Systems Specialist who leads the IFA work for Massachusetts and the DPCP Program Director spend on the project decreased slightly since Phase 3, from 65% to 45% and 13% to 10%, respectively.

G.3 Partnerships

During Phase 4 of the initiative, Massachusetts continued its strong partnership with its key partner from Phase 3, DAI. Although there has been significant staff turnover at DAI, the partnership remains strong. Lessons were learned from the Phase 3 work, and in Phase 4 MA DPCP will be more hands on, participating in face-to-face meetings every 2 weeks and providing additional technical support.

In addition to DAI, MA DPCP has also established a new relationship with the Bristol County Workplace Health Improvement Initiative. This partnership builds upon previous work with Healthy City Fall River, a project started by the Mayor of the City of Fall River. MA DPCP is one of many partners in this initiative that will focus on a variety of chronic disease prevention and control issues, including diabetes and prediabetes. This group had already been developing policies and programs to improve the health of residents and was interested in expanding its work to include partnering with worksites and employers. MA

DPCP, DAI, and Lightolier (the worksite from Phase 3) are all partnering on this effort and will be sharing their experiences.

G.4 Interventions

From their experience working with Lightolier on their on-site screening and lifestyle change intervention, MA DPCP and DAI found significant challenges with engaging health care providers to identify those at risk for diabetes and conduct the necessary tests to get a diagnosis. In an effort to improve this component of the intervention, DAI has been contracted to conduct a series of key informant interviews with primary care providers, health systems, and regional health plans (Blue Cross Blue Shield of Massachusetts and possibly United and Harvard Pilgrim). The purpose of these interviews is to learn about current screening practices and about the health systems' or plans' willingness to conduct and pay for a comprehensive screening process. Various options for screening will also be explored, including willingness to provide on-site screening, for example through a mobile lab at a worksite or in the office after receiving notification that a patient has been identified as being at risk. Through this process, the MA DPCP and the DAI hope to learn more about the best way to engage providers, health systems, and health plans in the screening process to ensure better follow-up and diagnosis of patients at risk for prediabetes and diabetes.

In fall 2008, the MA DPCP will also have the opportunity to apply this knowledge and what was learned from its work with Lightolier to the implementation of another series of screening and lifestyle change classes with Bristol County Community College in southeastern Massachusetts. DAI will conduct a screening program and offer a nine-session modified Diabetes Primary Prevention (DPP) curriculum to staff and students identified as being at risk for diabetes.

MA DPCP has also become a partner of the Bristol County Workplace Health Improvement Initiative, a preexisting effort that MA DPCP became involved with to contribute to their worksite health interests. MA DPCP is collaborating on the implementation of a series of learning sessions for employers interested in improving the health of their employees. The model is based on the Institute for Healthcare Improvement's Breakthrough Series Collaborative and will include quarterly meetings to learn about best practices and provision of materials related to heart disease, diabetes, cancer, and other chronic disease risk factors. Rather than being prescriptive and telling employers what they need to work on, there will be a guided process where employers will assess the needs of their workforce and then develop a plan based on identified priorities. As of March 2008, 13 employers are participating in the series, including Lightolier. While MA DPCP is providing initial start-up funds for this effort, the goal is to institutionalize the effort within the county by asking participating employers to contribute funds to maintain a coordinator position and fund the learning sessions.

G.5 Costs of Interventions

Table 6-1 shows the costs of the interventions as reported by the MA DPCP.

Table G-1. DPPI-IFA Budget: Massachusetts

	Total	Staff	DPCP Travel	Supplies/Other	Funds to Partner/ Cost of Interventions	Notes
Phase 1 (05–06)						
CDC funds	$176,240[a]	$47,846	$5,530	$5,825		Costs estimated only for IFA staff, travel, and supplies
DPCP funds/ in kinds	$44,060[b]	$6,913		$37,147[c]		Staff time was for DPCP Director's time; supplies not specific to IFA
Partner in kinds						
Phase 2 (06–07)						
CDC funds	$176,240[a]	$55,504	$7,285	$1,949	$40,000 (carryover funds)	Costs estimated only for IFA staff, travel, and supplies
DPCP funds/in kinds						
Partner in kinds[d]				~$520—Southcoast screening funds Donation of running shoes and YMCA membership		
Phase 3 (07–08)						
CDC funds	$127,594[a]	$56,240	$2,880	$750		Costs estimated only for IFA staff, travel, and supplies
DPCP funds/ in kinds						
Partner in kinds						
Phase 4 (08–09)[e]						
CDC funds	$176,240	$35,987	$12,690	$2,778	$90,000	
DPCP funds/in kinds						
Partner in kinds					Not yet estimated	

[a]The DPPI budget and CDC funds include costs for both the Interventions Focus Area (IFA) and the Surveillance Focus Area. In an effort to isolate funding just for the IFA in the other categories, we have attempted to divide the travel and supply costs and only included salary information for the staff person who coordinates the IFA.

[b]Matching funds from state and external partner for entire DPPI effort, not just IFA.

[c]$25,000 was matched by the MDPH Office of Primary Care to fund diabetes primary prevention related efforts at community health centers. An additional $12,147 was contributed by the Massachusetts League of Community Health Centers to be used for meeting space and resource materials.

[d]It was not possible to obtain an estimate of in-kind donations by the lead partner, DAI. However, qualitatively, this partner reported a significant amount of staff time, effort, and resources that went above and beyond the funding provided to them from DPCP.

[e]The figures provided for Phase 4 are only for a partial year because these data are being collected partway through the year. The figure provided for CDC funds are funds provided for the entire year.

G.6 Results

Table G-2 shows findings from the Phase 2/3 intervention, slightly modified in format from that reported in the Final Report. Phase 4 activities are still in the developmental stage; thus, there are no individual results to report at this time. However, it is important to note that 13 local businesses have begun to participate in the Bristol County Workplace Health Improvement Initiative. This is noteworthy because getting partners, especially businesses, to the table often is a considerable challenge. Involvement in this effort is also significant because it marks a movement toward providing services to address workforce health on a larger county level, rather than targeting services to one employer at a time, which is more resource-intensive. There is also a focus on sustainability of the effort, by asking participating employers to financially contribute to the program. If successful, this will move state and local government away from ongoing program implementation and move that responsibility to those using the resources.

Table G-2. Phase 2/3 Results: Massachusetts

Intervention Phase	Measure	Value Reported Through September 2007	Notes/Definitions
Screening	Number of participants in the target audience	600	
	Number who were reached by awareness activities		
	Number recruited for screening	110 for ADA risk test 90 for capillary screening	
	Number at high risk	30	Fasting capillary ≥ 100
	Number who followed up for OGTT or FBG (diagnostic visit)	Unknown	
	Number for whom results are available	1	
	Number with prediabetes	0	
	Number with diabetes	1	
	Number with normal results	0	
Pre-DM intervention	**Total number enrolled in intervention**		
	Number at high risk	14	
	Number with prediabetes		
	Number with diabetes	1	
	Number with normal results	5	
	Number with unknown status	1	
	Total number that completed intervention	20	Completion defined as ≥ 5 of 10 classes
	Number at high risk		
	Number with prediabetes		
	Number with diabetes		
	Number with normal results		
	Number with unknown status		

(continued)

Table G-2. Phase 2/3 Results: Massachusetts (continued)

Intervention Phase	Measure	Value Reported Through September 2007	Notes/Definitions
Outcome data	**Average percentage weight loss among persons who completed the intervention:**	3.7%	
	Among high risk		
	Among prediabetes		
	Among diabetes		
	Among normal		
	Among unknown status		
	Percentage reporting at least 150 minutes of physical activity among persons that completed the intervention		
	Among high risk		
	Among prediabetes		
	Among diabetes		
	Among normal		
	Among unknown status		
Clinical follow-up for DM cases	Number of newly diagnosed persons with DM referred to primary care	1	
	Number referred who contacted primary care	1	

G.7 Tools Used or Developed

At this time, no new tools have been used or developed for implementation of the Phase 4 activities.

G.8 Facilitators and Challenges

Worksite health promotion is a significant focus within the Massachusetts Department of Public Health (DPH) and cuts across many public health issues. This focus has been both a facilitator and a challenge. Having the support of DPH is important and has helped to move worksite efforts forward quickly. While there are significant benefits of a supportive environment, staff are facing the challenge of aligning efforts so that worksites are not being overwhelmed with multiple efforts. The state wishes to offer well coordinated programs that allow employers to decide what is important to them to address and then provides resources on a variety of issues. This state-level approach to worksite wellness has been challenging but has allowed for learning and sharing across programs and movement toward development of a statewide approach to worksite health promotion.

Another challenge facing MA DPCP in working with worksites is learning the business lingo and terminology. There is a clear difference in the way public health and businesses talk, and it is important to be prepared to discuss issues such as productivity and absenteeism

that impact corporate decision making. Additionally, it is important to explain to employers why it is important to move beyond traditional (and mostly ineffective) strategies such as health fairs and move toward system-wide change.

G.9 Sustainability

MA DPCP appears to be taking sustainability of their efforts into consideration as it moves forward with Phase 4 activities. Through its work with the Bristol County Workplace Health Improvement Initiative, sustainability is a key issue, and plans are in place to provide start-up funding and then help participating employers pay to maintain the initiative.

The Massachusetts program is fortunate in that it does receive a small amount of state funding for its diabetes program so that when CDC funding for this effort is over, MA DPCP does hope to be able to sustain the effort at some level. Having MA DPH support for worksite wellness programs is also helpful in that it is a priority for key decision makers and hopefully will result in additional funding in the future.

APPENDIX H:
SITE-SPECIFIC SUMMARY: MICHIGAN

In general, the Michigan Diabetes Prevention and Control Program (MI DPCP) describes its Phase 4 work as expanding and building on its partnerships to provide screening and lifestyle interventions for more Michigan residents. They have done so by continuing two of the three earlier projects and adding two new primary prevention pilots as components of the initiatives.

H.1 Context

In Phase 4 of the Diabetes Primary Prevention Initiative–Interventions Focus Area (DPPI-IFA), MI DPCP maintained its current staffing, although there was a turnover in the Prevention Coordinator position.

H.2 Partnerships

MI DPCP maintained current partnerships, with one exception, and added several new partners. Continuing partners are the Northern Michigan Diabetes Initiative (NMDI), the Well-Integrated Screening and Evaluation for Women Across the Nation (WISEWOMAN) program at the state level and the WISEWOMAN program in Lenawee county, and the Diabetes Outreach Networks (DONs, including TIPDON). The Women, Infants and Children (WIC) program is no longer an active partner in the DPPI-IFA, since that intervention ended.

A new partner is the Oak Park YMCA. This organization was chosen to facilitate a diabetes prevention pilot because of a personal connection between DPCP and the person running the Special Programs office; because it offered a fitness program for middle-aged adults already (EnhanceFitness® [EF]); because it already had a lifestyle program for persons with diabetes; and because its service area overlapped one of the WISEWOMAN programs, which do not cover the entire state. DPCP recruited the YMCA and gave initial guidance on the content of the Diabetes Primary Prevention (DPP) intervention, but the YMCA is operating relatively independently in terms of designing the lifestyle intervention.

Overall, DPCP reports expanding and building on the current partnerships. They also report a high level of trust from many of their partners and report that the perceived value of the partnerships has exceeded their expectations. Challenges with partners included directing them to measurable outcomes. Strategies to retain partnerships have included providing even a small amount of funding, providing nonfinancial support, tapping them as the "experts," and being present and visible at the table.

H.3 Interventions

Two new diabetes primary prevention pilots are being undertaken in Phase 4 by the MI DPCP; however, one involves a WISEWOMAN program and the second involves the TIPDON and is part of the NMDI. Thus, they are discussed as part of the updates of these two initiatives.

H.3.1 Update on WISEWOMAN

The WISEWOMAN pilot is ongoing in Lenawee. DPCP is still supporting the costs and overseeing the pilot. Also, screening for prediabetes is now successfully incorporated into the remaining eight sites; potentially, a total of 3,523 program participants will be screened. In these health departments, only the screening and one diagnostic follow-up visit by the provider are covered. Unlike the pilot, there are no incentives (e.g., certificates for Weight Watchers, local gym memberships) and no formalized education program offered by WISEWOMAN, although the women will qualify for the WISEWOMAN standard five visits for lifestyle counseling that has not been adapted for prediabetes. At least one program has developed a relationship to a nearby diabetes self-management training program, and no-cost education is available for those participants with prediabetes. Finally, DPCP is providing a small amount of funding ($17,000 for all nine programs) for small incentives for the women who show up for testing or the counseling sessions.

The DPCP Prevention Coordinator currently does not have a direct role in the expansion of diabetes primary prevention in WISEWOMAN but was consulted extensively earlier on. DPCP is providing a small amount of funds for incentives for women who return for additional testing as needed, follow up with their providers, or attend the educational program.

Another facet of the partnership with WISEWOMAN is a new pilot taking place with one county program, the Ingham County WISEWOMAN Program; the Oak Park YMCA, which is actually the lead in the intervention; and the Carefree Medical Clinic. DPCP has convened these partners and has stimulated the development of an educational program at the YMCA for persons with prediabetes. Both the Ingham County WISEWOMAN Program and the clinic will refer persons with prediabetes for a nutrition and physical activity program at the YMCA. Participants will be eligible for five weekly sessions, including a fitness assessment and one-on-one personal training sessions. Participants will continue in group classes in a program already developed (EF). In addition to continued EF classes, in the 5 weekly sessions, participants will attend group meetings to get nutritional information and discuss obstacles to behavior change. Although the YMCA has developed the intervention themselves, they were provided guidance on the content of the DPP curriculum by DPCP. The person leading the program at the YMCA is a fitness instructor as well as a nutritionist. Participants also complete food and physical activity logs and will receive a 3-month membership for completion. DPCP is providing funds directly to the YMCA for development of the program and partial support for the memberships provided at the end to participants.

Evaluation measures for the initiative will include

- number of participants who were referred, who enrolled, and who completed the program;
- weight and activity level at beginning and end of the program;
- number of classes and attendance; and
- satisfaction evaluation by participants.

H.3.2 Update on NMDI

NMDI continues to refine its goals and has defined its two target audiences to be health care providers and the general public. The Initiative has secured funding and a full-time coordinator, has initiated physician office visits, and has completed a telephone survey of a sample of the 11-county population.

DPCP continues to fund TIPDON, which supports NMDI, although these are state funds and not DPPI. DPCP has also provided its statistician to assist with analysis of the telephone survey data.

TIPDON's role has evolved such that it will now lead a small diabetes primary prevention pilot, funded by DPCP with DPPI funds. Up to 225 underserved persons identified in three locations (i.e., laundromats, food pantries, and free clinics) in two counties will be screened using the American Diabetes Association paper screening test, recommended to get a fasting blood glucose at their primary health care provider or the free clinic, and given a voucher for free prediabetes education from a certified diabetes self-management training program. Currently, the education consists of one session, at a cost to DPCP of $25 per participant. The participant also receives a gas card worth $10 for completing the session.

H.4 Costs of the Interventions

Table H-1 presents the costs of the interventions as reported by the MI DPCP.

Table H-1. DPPI-IFA Budget: Michigan

Phase	Total	Staff	DPCP Travel	Supplies/ Other	Funds to Partner/ Cost of Intervention	Notes
Phase 1 (05–06)						
CDC funds	$119,813					
DPCP funds/ in-kinds					$25,000	To Lenawee County HD
Partner in-kinds						
Phase 2 (06–07)						
CDC funds	$119,813				$6,538 $53,500	To NMDI To Lenawee County HD
DPCP funds/ in-kinds						
Partner in-kinds						
Phase 3 (07–08)						
CDC funds	$119,813	$104,769	$8,082	$8,664	$20,000	To Lenawee County HD[a]
DPCP funds/ in-kinds		$5,250				
Partner in-kinds		$600 WIC $600 genomics $1,200 WISEWOMAN $3,600 TIPDON $16,080 NMDI		$500 genomics $500 NMDI $1,000 TIPDON		
Phase 4 (08–09)						
CDC funds	$119,813	$62,771	$7,982	$909	$20,000*	*To Lenawee County HD
DCPC funds/ in-kinds		$10,245 TIPDON (staff support to NMDI)			$17,580 WISEWOMAN HDs $6,000 NMDI Pilot (through TIPDON) $4,574 YMCA	
Partner in-kinds						

Note: CDC = Centers for Disease Control and Prevention; DPCP = Diabetes Prevention and Control Program; HD = Health Department; NMDI = Northern Michigan Diabetes Initiative; TIPDON = Northern Michigan Diabetes Outreach Network; WIC = Women, Infants, and Children; WISEWOMAN = Well–Integrated Screening and Evaluation for Women Across the Nation

[a]Individual items may not sum to the total listed because intervention funds to partners may have included carryover funds from the prior year.

H.5 Results

H.5.1 Individual Level

Table H-2 shows results for the participants in the Lenawee WISEWOMAN pilot program. Data are still not available for the outcomes of follow-up testing of the 84 women found to be at high-risk by a capillary test ≥ 100mg/dL. No data are yet available from the NMDI primary prevention pilot or the Oak Park YMCA pilot.

H.5.2 Community/Organizational Level

DPCP mentioned two outcomes: the policy change in the WISEWOMAN program, which is now statewide (in the nine participating counties); and the establishment of the NMDI, including its strategic plan. For NMDI, the DPCP takes credit for having found the person who led the strategic planning activity and having funded the planning activity.

H.6 Tools Used or Developed

No new tools were described.

H.7 Facilitators and Challenges

Facilitators mentioned by the program are having even a small amount of money to provide to partners, building on existing structures and partnerships, integrating with other activities and public health programs in the state, and identifying others who are reaching the same target audiences.

One specific challenge mentioned by the DPCP is time; now that they have conducted or are conducting several pilots, the question is "where is the program going from here?" They feel they are in a building stage, with a potential expansion of partnerships such as WISEWOMAN, the YMCA, and diabetes self-management training programs across the state that can be harnessed and coordinated to provide prediabetes education on a much larger scale.

H.8 Sustainability

DPCP is definitely looking to sustain and expand its diabetes primary prevention work: "we have pilots, not programs." They are hoping that the upcoming funding announcement will include funding to support the expansion of their work, as described above. They feel that the partnerships and programs they have will not continue without continued support from DPCP.

Table H-2. Individual-level Outcomes in the Michigan DPPI-IFA

Intervention Phase	Measure	Value Reported Through September 2007	Updated Values	Notes/Definitions
Screening	Number of participants in the target audience	251	431	Total WISEWOMAN participants, October 1, 2006, to February 28, 2008 (those with preexisting diagnosed diabetes = 52, bringing the eligible population to 379)
	Number who were reached by awareness activities		N/A	
	Number recruited for screening	136	283	
	Number at high risk	34	84	Fasting capillary > 100
	Number who followed up for OGTT or FBG (diagnostic visit)			
	Number for whom results are available			In process, to include in WISEWOMAN database
	Number with prediabetes			
	Number with diabetes			
	Number with normal results			
Pre-DM intervention	**Total number enrolled in intervention**		84	
	Number at high risk			
	Number with prediabetes			
	Number with diabetes			
	Number with normal results			
	Number with unknown status		84	
	Total number that completed intervention			All numbers are initial visits, the final enrollment ended on 2/28/08; follow-up data will be entered into database as completed
	Number at high risk			
	Number with prediabetes			
	Number with diabetes			
	Number with normal results			
	Number with unknown status			
Outcome data	**Average percentage weight loss among persons who completed the intervention:**			

Note: DM = diabetes mellitus; FBG = fasting blood glucose; OGTT = oral glucose tolerance test

APPENDIX I:
SITE-SPECIFIC SUMMARY: MINNESOTA

I.1 Introduction

Minnesota has been very busy during Phase 4 of the Diabetes Primary Prevention Initiative (DPPI). Their Interventions Focus Area (IFA) work has aimed to create a multitiered approach to address prediabetes among health care systems and providers, policy makers, and individuals, and many of the activities that had been in the planning stages were fully implemented in Phase 4.

I.2 Context

The Minnesota Diabetes Program (MDP) had no staffing changes as it moved from Phase 3 to Phase 4. Level of effort also remained the same for all key staff.

I.3 Partnerships

Minnesota has successfully maintained many of the relationships it had with existing partners and expanded its partnerships to include at least one new partner organization in Phase 4.

During Phase 4, MDP added the Minnesota Diabetes Collaborative to its list of partners. This group, which aims to improve diabetes care in Minnesota, includes key member organizations, including the American Diabetes Association (ADA), at least 10 health plans, and the Institute for Clinical System Improvement (ICSI). This Collaborative has extensive reach, and its health care organizations represent an estimated 80% of the population of Minnesota. This Collaborative focuses on communication of health information and messages; through its partnership with the MDP, the Collaborative and became interested in working together on the family history of diabetes media campaign, which had been started by the Prevention Awareness Group (PAAG) of the Minnesota Diabetes Steering Committee.

Until Phase 4, MDP had worked with the Steps to a Healthier Minnesota program on planning strategies to address prediabetes in Steps communities. In Phase 4, this partnership expanded to include the local Steps programs: Steps to a Healthier Wilmar, Steps to a Healthier Rochester, and Steps to a Healthier St. Paul. This planning resulted in the development of a screening program and behavioral change intervention entitled Individuals and Communities Acting Now to Prevent Diabetes (I CAN Prevent Diabetes), to be conducted in collaboration with community health centers and YMCAs. Leslie Gross, of the Minnesota Department of Health, Steps to a HealthierMN program, serves as the primary point of contact for the Steps programs.

MDP also maintained its strong relationship with ICSI to develop and test clinical guidelines related to diabetes.

I.4 Interventions

In collaboration with its many partners, Minnesota initiated several new interventions during Phase 4 of the DPPI.

I.4.1 Awareness

In collaboration with its newest partner, the Minnesota Diabetes Collaborative, work continued on the Prevention Awareness Action Group (PAAG) of the Minnesota Diabetes Steering Committee's message related to family history and prevention of diabetes. As one of the Collaborative's two major activities for the year, a press release on this issue was developed and distributed to employees and consumers of the member organizations. DPCP estimates that this press release reached about 80% of the population of Minnesota and that, because it was distributed so broadly, consumers across the state received a consistent message about prediabetes. Additionally, the Collaborative developed a poster and fan that looks like a family tree that discusses the issue of family history of diabetes in relation to diabetes risk. These materials will be disseminated at health fairs and other health promotion events.

I.4.2 Screening and Lifestyle Interventions

I CAN Prevent Diabetes is a community-level intervention that aims to serve low-income individuals who are at risk for developing diabetes (http://www.icanpreventdiabetes.org/docs/one-pg-willmar.pdf). The objectives of this initiative are to

- identify and enroll individuals diagnosed with prediabetes in an intervention program,
- set up pilot sites in Steps communities to demonstrate that the Diabetes Primary Prevention (DPP) curriculum can be delivered effectively in community settings,
- offer two to three group sessions in each community with 10 to 12 participants per group,
- train three or more professionals/paraprofessionals in each community,
- offer standardized DPP 16-week group curriculum lead by trained facilitators in nonclinical community settings, and
- collect and report data to assist Steps in evaluating the I CAN Prevent Diabetes program.

In collaboration with the state and local Steps programs, a pilot multilevel intervention that includes clinical diabetes screening and use of the 16-week DPP curriculum was developed and fielded. This effort aims to train community organizations and their staff on how to implement a lifestyle change program for those with prediabetes so that it can be self-sustained over time by the sponsoring organizations. MDP and Steps to a Healthier

Minnesota staff lead the development of program materials, training and participant curriculum, and standardized evaluation. They then provided participating partners with the curriculum and materials to use for implementation of the intervention.

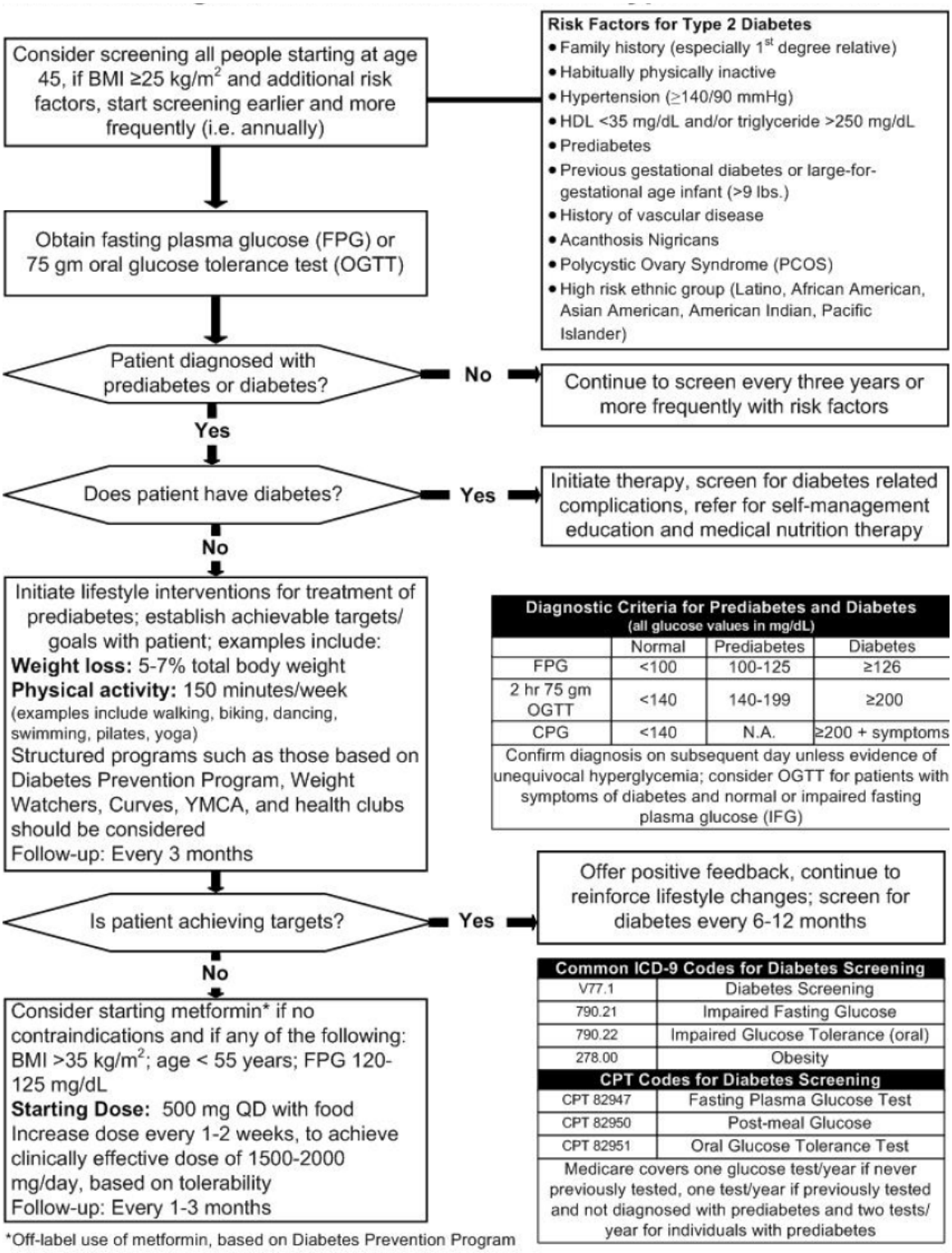
Four health clinics serving the Steps communities of Wilmar, Rochester, and St. Paul were recruited by local Steps staff to participate in the pilot project. A staff person from each clinic participates in the 3-day facilitator training to learn about the program so they can discuss it with patients and also educate the providers and convince them that the program is worthwhile for patients. Patients diagnosed with prediabetes (criteria and screening protocol discussed below) are then encouraged to enroll in the lifestyle change intervention that uses the DPP curriculum. Classes were offered at two area YMCAs and one Parks and Recreation Center, also located within the Steps communities. While specific demographics about the Steps communities are not clear, all appear to serve low-income patients. Additionally, the participating clinic in St. Paul is a Federally Qualified Health Center.

Participants were recruited using a variety of methods, although it appears that most participants were already patients at the participating clinics. These clinics were asked to screen patients they suspect may have prediabetes. In general, patients were asked to complete a paper and pencil screening questionnaire (the type varied across the sites but was similar to the ADA risk test) in the waiting room. Patients would then take their test to their doctor, who would then decide if further testing was appropriate. Providers were encouraged to use a fasting plasma blood glucose test or oral glucose tolerance test, although it was acknowledged that use of OGTT would probably not happen. MDP developed a screening algorithm (Figure I-1) and indicated that the cut-off values for diagnosis were given to the providers to try to standardize the criteria for diagnosis. Once a person was diagnosed with prediabetes, he or she was then referred to the lifestyle change intervention being conducted at the YMCA or the Parks and Recreation Center.

Some individuals may have been recruited through flyers or promotional materials available at the YMCA or at area health fairs. Individuals who indicated they were interested in participating in the intervention were given a paper and pencil screening tool and then referred to their own physician or the participating clinic for diagnosis. Everyone who enrolled in the intervention was required to have a clinical diagnosis of prediabetes in order to be enrolled in the intervention.

All patients with a diagnosis of prediabetes from their provider were eligible to enroll in the 16-week DPP curriculum. In the Rochester and Willmar YMCAs, the cost per patient for participation was $160; however, because it was the first group, the cost was subsidized by the YMCA and participants were only asked to pay $80 for the series. The Rochester YMCA charged the full $160, but the urban group located in St. Paul provided the classes free of

Figure I-1. Minnesota Algorithm for Prediabetes and Type 2 Diabetes 2/2008



charge. This location recruited patients from a Federally Qualified Health Center and therefore was serving individuals who would have had difficulty paying for the service. The cost for the facilitator was paid by the local Steps program.

The lifestyle change intervention consisted of the full DPP curriculum, starting with nutrition and finishing with physical activity. Most of the classes were conducted in early evening to allow for those who work to participate and lasted 1 hour each week. The instructor at each session was usually a registered dietician, and all had completed the 3-day training session. Participants weighed in each week and tracked their activity using standardized forms submitted to the instructor.

I.4.3 Policy Interventions

In collaboration with ICSI, the clinical guideline for Managing Type 2 Diabetes was revised and using input from MDP and the Health Policy and Systems Change Action Group of the Minnesota Diabetes Steering Committee, ICSI agreed to include prediabetes in the guideline. The Steering Committee originally requested a separate guideline for prediabetes; although ICSI decided not to do this, it did include prediabetes as part of the continuum of care and management of diabetes. The HPSC Action Group also developed a screening algorithm that they hoped would be included in the guideline. Unfortunately, ICSI believed that the guideline was too broad because it recommended screening for everyone. However, although the algorithm was not used by ICSI in its work, it is being used by the I CAN Prevention Diabetes intervention.

In addition to the work on the Managing Type 2 Diabetes guideline, the Steering Committee also provided input in to the Primary Prevention of Chronic Disease Risk Factor Guideline. This is a new guideline for ICSI and is more public health focused than the other guidelines. Although it is not diabetes specific, it includes factors such as nutrition, physical activity, and tobacco use.

Pediatric Algorithm for Prediabetes

Through their work with the Diabetes Steering Committee to develop the adult screening algorithm, a participating pediatrician and pediatric endocrinologist noted that there was a need for an algorithm that is specific to youth. These partners decided to develop an algorithm for youth that will now be included in a toolkit that goes out to pediatric providers. The Committee believes this tool will be particularly helpful to other physician practices, especially those in rural areas that do not have a pediatrician or endocrinologist on staff.

I.5 Costs of the Interventions

Table I-1 presents the costs of the DPPI-IFA through Phase 4 as reported by the MN DPCP.

Table I-1. DPPI-IFA Interventions Budget: Minnesota

Phase	Totals	Staff and In-Kind Staff	DPCP Travel	Supplies/ Other	Funds to Partners/ Costs of Interventions	Notes
Phase 1 2005–06						
CDC DPPI funds	$49,297	$32,899	$5,363	$3,025		
DPCP funds/in kind						
Partner in kind						
Phase 2 2006–07						
CDC DPPI funds	$44,631	$29,484	$6,405	$1,490.00		
DPCP funds/in kinds		$45,400			$3,000	Family History ad in Star Tribune
Partner in kind		$17,200			$10,000	Produced copies of ECHO DVDs
Phase 3 2007–08						
CDC funds	$42,153	$24,176	6,405			
DPCP funds/in kinds				$6,600		I CAN PD Supplies and Materials (MDP)
		$45,500			$35,624[a]	Contract with ICSI-for focus groups and other projects
					$10,000[a]	Contract for D. Marrero for DPP Training
Partner in kind		$88,700		$3,400		PAAG, HSPC, Steps-ICAN PD partners (local/state)
Phase 4 2008–09						Est based on Phase 3
CDC funds	$42,000	$24,000	$3,000	$5,000		
DCPC funds/in-kinds		$45,500			$19,500	Contract with ICSI for surveys, webinar, BHAG project
					$10,000	Contract for D. Marrero for DPP Training
				$6,000		I CAN PD Supplies and Materials (MDP)
Partner in-kinds		To be determined				
				$3,000		Steps MN Training and supplies for I CAN PD
				$5,000		Latino-Teen-Family Intervention Pilot Genomics grant

[a]$18,000 of funding to ICSI was carried over from Year 1 to Year 3.

[b]Individual items may not sum to the total listed because intervention funds to partners may have included carryover funds from the prior year.

I.6 Results

I.6.1 Organizational and Community Level

Minnesota health care providers now have additional resources available to them in the diagnosis and treatment of diabetes through the new ICSI Managing Type 2 Diabetes guideline. Additionally, they will also soon have guidance on supporting patients in preventing chronic disease, including diabetes. Although this is not specific to prediabetes, this work has far- reaching impact, as these guidelines are used not only in Minnesota but by physicians in many other states across the country.

I.6.2 Individual Level

Recruitment activities for the first round of the I CAN Prevent Diabetes intervention were conducted between September and November 2007. After the sites were recruited, the first instructor training occurred in December 2007. This 3-day training was led by consultant Dr. David Marrero and trained 19 facilitators. Across the three sites, patients were recruited in December 2007; the first set of classes started in January 2008 and lasted into April 2008. A total of 38 participants participated in the classes across the three sites. At the time of data collection for this update, classes were just ending and no data are available on the number screened for risk status, number screened for diabetes/prediabetes, the screening tests that were used, or the outcome of the screenings at the various sites. A second round of trainings for instructors is scheduled to begin in August 2008 with additional courses to follow.

I.7 Tools Used or Developed

Two of the primary tools to come out of the Phase 4 work are the two screening algorithms (one for adults and one for youth). These algorithms have gone through ICSI's review process and have been finalized. Within the next 3 to 4 months, they will be distributed to providers in a diabetes toolkit to be sent out by MDP.

In addition to the algorithms, the training and implementation materials for the I CAN Prevent Diabetes intervention are additional important tools that were developed in Year 4. These materials and the process for using them are currently only available to the Steps partners, but they have the potential to be disseminated statewide and beyond.

I.8 Facilitators and Challenges

The primary facilitator for Phase 4 is the ongoing strong relationships with influential and engaged partners. MDP has maintained its partners, such as ICSI, over several years. It has also been able to work with other Minnesota Public Health programs, such as the Steps to a Healthier Minnesota and its local Steps partners, to implement important health programs. Being able to do this work in an environment that is supportive of prevention and

intervention development, as the MDP is, has also been extremely helpful, as their lead staff person has been able to spend almost all of her time in this area.

The greatest challenge appears to be the time needed to complete all the tasks and activities that are being implemented. Each of the interventions and activities takes up a great deal of time and this sometimes is difficult, even with a dedicated staff member.

I.9 Sustainability

Creating sustainable interventions, policies, resources, and tools is a primary goal of the work being conducted by MDP. Partnering with and training YMCA and health care provider staff for the I CAN Prevent Diabetes intervention is one step toward creating a program that can be maintained with relatively little financial or staffing support from the state health department. These programs can then become integrated into and self-sustained by these partners.

Sustainability is then linked to effectiveness on several levels and questions still remain on how successful the I CAN Prevent Diabetes intervention will be. If people are successful in reducing their risk of diabetes, will they tell others about it, to maintain enrollment? If people pay for the program, will that help them to take it more seriously and put in greater effort? How do we meet the needs of individuals and populations who are underserved and uninsured? Many questions remain; however, staff are optimistic.

APPENDIX J:
SITE-SPECIFIC SUMMARY: WASHINGTON

J.1 Introduction

For Phase 4 of the Diabetes Primary Prevention Initiative–Interventions Focus Area (DPPI-IFA), Washington continued working with REACH to develop and implement lifestyle change intervention classes for Chinese-speaking individuals with prediabetes, as well as a class for English-speaking Filipinos. Several changes occurred in the organization of Washington's DPPI program, including staffing changes and transitioning from working with two partners to one. New activities and changes to the program are described in the following section.

J.2 Context

The DPPI-IFA Manager from Phases 1 through 3 continued to serve as the lead for the Diabetes Prevention and Control Program's (DPCP's) DPPI work, but two of the consultants who had previously been very involved with the program are no longer working on the project. They had served as DPCP's contacts with each of the partners and helped them by providing guidance and resources for intervention development and implementation. Because the work with one of the partners, Garfield County Hospital District, was ending and because the relationship between DPCP and REACH is very strong, additional staff were not hired to replace the two consultants. The DPPI-IFA Manager reports that her time on the project has not changed drastically as they have moved into Phase 4. If anything, she anticipates that her time on the project may decrease this year because there will be fewer face-to-face meetings for the DPPI.

An additional change to the program is that the DPPI-IFA Manager will be getting a new supervisor in the near future. The current Director of the Chronic Disease Prevention Unit will be handing her oversight role in DPPI over to a new hire. It does not appear that this will result in any notable changes to Washington's DPPI program.

J.3 Partnerships

WA DPCP worked with REACH and the Garfield County Hospital District during Phase 3 of DPPI to implement screening initiatives with community members and county employees, respectively. Phase 3 also involved two lifestyle intervention classes implemented by Sea Mar Community Health Centers (SeaMar) and the Center for MultiCultural Health (CMCH). As the program moved into Phase 4, DPCP ended its partnership with Garfield and instead focused efforts and funding on REACH. During Phase 4, International Community Health Services (ICHS), a member of the REACH coalition, will be working with the WA DPCP to develop and present a diabetes prevention class to Chinese speakers. ICHS was involved with the DPPI-IFA effort during the screening component of Phase 3. The decision to work

primarily with REACH reflected funding limitations, making it more practical to work with one partner organization, rather than any problems with the relationship between DPCP and Garfield County Hospital District.

Throughout the DPPI work, DPCP has maintained an excellent relationship with its partners. MA DPCP reports that REACH is a very easy coalition to work with, in part because of their extensive knowledge of diabetes and their ongoing work with the Centers for Disease Control and Prevention (CDC) as the Seattle-King County REACH 2010 Coalition. DPCP was also very satisfied with its work with Garfield. The only challenge with that partnership came during Phase 3 when Garfield was experiencing some internal issues with unexpected staff turnover. Although the core staff at Garfield remained committed to the DPPI project, there was some internal turmoil; however, they managed to continue the project to the best of their ability given the circumstances.

J.4 Interventions

The work done by both partners during Phase 3 of WA's DPPI work focused primarily on screening, with two of the agencies taking the work one step further by implementing lifestyle intervention classes with their target populations. The Phase 4 effort is focusing exclusively on the development and implementation of a lifestyle intervention classes.

The lifestyle intervention classes as part of Phase 3 were held in the winter of 2007–2008. The curriculum for the lifestyle intervention classes was modified from a 16-session DPP series into a series of 8 individually taught classes. A key change in the curriculum adaptation was the goal of translating the curriculum that traditionally focused on individually taught sessions into one that could be done entirely in a group setting. The eight sessions focused on nutrition (specifically reducing fat intake, reducing calories, making healthy food choices, and improving the nutrition environment), increasing physical activity to at least 150 minutes per week, and making behavior changes through problem solving. The problem solving focused on issues of food intake, activity, stress, and emotional eating. The sessions were modified by a diabetes educator with review and discussion by the DPPI REACH partners. Additional changes were made by each partner organization to tailor the 8-week series to meet the needs of their specific target population.

SeaMar recruited participants from its Burien and South Park clinics using flyers, word-of-mouth, physician references, and promotoras contacts with patients. Individuals with a diagnosis of prediabetes or with risk factors for prediabetes or diabetes were eligible for the classes. Six people participated in the 8-week session. Data were not available on the number of participants with a specific diagnosis of prediabetes versus those attending the class because they had the risk factors for prediabetes or diabetes. CMCH is a community organization, rather than a clinic, so recruitment did not focus on physician referral or promotoras contacts. Like at SeaMar, six individuals completed the classes. CMCH

participants included those at risk for diabetes (prediabetes) as well as those with diabetes. No information was available on the number of participants with diabetes versus those with prediabetes.

During Phase 4, DPCP aims to implement the lifestyle curriculum with a new target population through its partnership with ICHS, one of the three REACH agencies. The main goals of this phase are to

1. translate the 8-week lifestyle intervention curriculum into Chinese for Chinese speakers,
2. implement the Chinese-language lifestyle intervention class for Chinese speakers, and
3. implement an English version of the curriculum for Filipinos.

ICHS will use the same version of the lifestyle curriculum that SeaMar and CMCH used during the end of Phase 3. The work on this Phase 4 effort has just recently begun; thus, although it is clear that ICHS will recruit participants from their clinics that predominantly serve Filipinos and Chinese-speaking Chinese Americans, details on specific plans and methods for participant recruitment are not available.

J.5 Costs of the Interventions

Table J-1 displays the costs of interventions as reported by the DPCP. Partner in-kind estimates were not available at the time of the report.

J.6 Results

J.6.1 Individual Level

The screening results from Phase 3 are presented in Table J-2. In addition to the information presented in the table, Garfield provided the following final statistics for their screening effort in the final report:

- 248 adults were screened for diabetes/prediabetes.
- 46.37% of adults were at low risk of diabetes.
- 53.63% of adults who were at high risk of diabetes and prediabetes were referred for diagnoses.
  - 20.97% scheduled appointments at the Pomeroy Medical Clinic (PMC).
  - 29.03% intended to follow up with a primary care provider other than PMC.
  - 20.97% were not interested in following up with any provider.

Table J-1. DPPI-IFA Interventions Budget: Washington

Phase	Total	Staff	DPCP Travel	Supplies/ Other	Funds to Partner/ Cost of Intervention	Notes
Phase 1 (05–06)						
CDC funds	$68,671	$7,061	$10,546	$15,800	$33,497[a]	
DPCP funds/in-kinds	$12,387[b]					
Partner in-kinds						
Phase 2 (06–07)						
CDC funds	$76,141	$12,360[b]	$10,649	$15,216	$44,524	
DPCP funds/in-kinds						
Partner in-kinds						
Phase 3 (07–08)						
CDC funds	$78,425	0	$8,479	$4,621	$61,900	
DPCP funds/in-kinds		$7,752				
Partner in-kinds	$20,000					
Phase 4 (08–09)						
CDC funds	$55,900			$5,900	$50,000	
DPCP funds/in-kinds	$5,000	$5,000				
Partner in-kinds	NA					

[a] This funding went into contracts with the University of Washington for the forming phase.

[b] DPCP in-kinds were primarily donated staff time.

Table J-2. Individual-level Outcomes for the WA DPPI-IFA

Intervention Phase	Measure	Common Measure or Other	GCHD	SeaMar	ICHS	CMCH
Screening	Number in target audience	O	250			
	Number (%) reached through awareness activities	O				
	Number (%) recruited for screening	O	248	20	200+	27
	Number (%) high-risk	C	133 (53.6%)	8 (40%)	33 (17%)	19 (70%)
	Number (%) who followed up for screening	C	67 (50%)[a]			
	Number (%) for whom results are available	O				
	Number (%) prediabetes, diabetes, and normal	C				

[a]Appointment scheduled or intended to follow up with provider.

  - 17.74% were not able to be contacted (we are still attempting to contact).
  - 9.72% did not need an appointment because of previous diagnosis of diabetes or because a review of recent labs indicated that there was no problem.

Both SeaMar and CMCH reported on findings from their lifestyle intervention class. Overall, the classes had a positive effect on post-implementation nutrition and physical activity behavior among participants. The results were as follows:

- CMCH
  - Six participants completed the class.
  - Four of five respondents had a self-reported increase in their physical activity following the class series.
  - Four of five respondents had a self-reported increase in consumption of fruits and vegetables following the class series.
- SeaMar
  - Three of six participants completed the 8-week class.
  - All three participants had a self-reported increase in physical activity following the class series.
  - All three participants had a self-reported increase in consumption of fruits and vegetables following the class series.

Individual-level results are not available for Phase 4 at this time. Development of the appropriate Chinese-language curriculum is currently underway, and the English-language class series for Filipinos has not been held yet.

Comment [d1]: Can WA DPCP clarify? Six completed class, but data only for 5, is this correct?

J.6.2 Organizational Level

The main organizational outcome that was noted during this round of data collection is that SeaMar intends to have providers continue screening patients for prediabetes on a regular basis. They are institutionalizing the screening that they began working on during Phase 3. They also hope to continue offering lifestyle intervention classes to those identified as prediabetic and diabetic.

J.7 Tools Used or Developed

During the end of Phase 3, REACH modified an existing 16-week diabetes curriculum into an 8-week series of classes. This curriculum was used for the lifestyle intervention classes conducted by SeaMar and CMCH. It also serves as the basis for the Chinese-language curriculum being translated by ICHS and will be used for the English-language class implemented by ICHS for Filipinos.

As part of the diabetes curriculum, REACH developed informational flipcharts and questionnaires for the class sessions. REACH also developed an observation form to assess the class. In addition, Garfield developed a flowsheet to illustrate how the diabetes screening work will fit into the personal health challenge.

J.8 Facilitators and Challenges

The facilitators for this work were the strong relationships with providers at the clinics. Having the providers on board with the program made it easier to ask them to refer patients and to hold the clinic-based classes. From the perspective of the WA DPCP, another facilitator for this work has been the strong relationship between DPCP and the partners. REACH has a great deal of diabetes knowledge and expertise and has been quite self-sufficient at developing and implementing interventions.

The main challenge with the lifestyle intervention classes has been generating and maintaining interest for the class. SeaMar and CMCH had trouble recruiting people to their classes, citing that many people do not fully understand that diabetes is a preventable condition. They realized that they should have done more awareness-raising on issues of diabetes and prediabetes to educate their target population on the importance of early action.

J.9 Sustainability

The ability of programs to sustain an intervention once funding has ended remains a challenge, but there are some early indications from WA that DPPI work may be sustained past the end of the funded project. SeaMar plans to continue focusing on prediabetes screening and education through their clinics. Because SeaMar is a clinic-based site, they have found it feasible to continue to screen for prediabetes when patients are in to see their provider. Similarly, Garfield plans to continue screening people for prediabetes through their existing Personal Health Challenge program that engages community members to (1) collect baseline health measures, (2) report their weight and blood pressure on a monthly basis, and (3) connect people to their primary care provider. Garfield will add a diabetes screening component to the Personal Health Challenge program, which will sustain this effort going forward. At this time, there are no explicit plans for sustaining DPPI efforts without additional funding through CMCH and ICHS.

Beyond these opportunities for DPCP partners to incorporate DPPI work into their existing services, the WA DPCP lead is optimistic that there will be upcoming funding opportunities to continue work in diabetes prevention. She does note that one barrier to sustaining diabetes prevention is that diabetes is not a billable condition for providers. She argues that if it were recognized as such, it would be easier for communities, and community-based clinics, to institutionalize diabetes screening and prevention efforts.